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INDIANA BUSINESS REVIEW

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INDIANA BUSINESS REVIEW

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Aid for Indiana's communities is a perennial topic. Many business and government leaders are distressed by the conditions prevalent in our state's cities and towns. Although progress and improvement are to be noted in all parts of the state, decay and stagnation are also evident in many areas. How much local, state, and federal intervention should be introduced to meet changing economic fortunes of Hoosier cities will be a continuing debate.

The first article in this issue is an exposition by Louis West of an experimental statistical method to aid federal and state agencies in the allocation of funds to localities. The method is designed to overcome shortcomings of existing tools, but is not proffered as a statement of the ultimate answer to resource allocation problems. The full results of the research involved are too detailed and lengthy to be presented here, but the data are available for interested readers.

In the second article, Robert Spack, Senior Planner for the State Planning Services Agency, has provided a guide to existing funding programs. Some of these programs may be able to use the methods in the first article. Mr. Spack's detailed statement cannot encompass all programs of aid to cities and towns, but offers the reader an overview of current efforts by the state and federal governments to meet perceived difficulties in our communities. An appendix lists addresses and telephone numbers of the various sources for programs and services.

Presentation of these two articles should contribute to the discussion of community revitalization in the months ahead.

MJM

City Revitalization: A Methodology

LOUIS J. WEST

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INTRODUCTION

Some of the funds from the federal government to state and local governments are intended to conserve and/or revitalize communities. In keeping with contemporary administrative practices, quantitative measures have been sought to guide the distribution of these funds among communities. What measures of community "need" should be used for such distributions? Who will get how much? Where is the "need" greatest? In response to a request from the Indiana State Planning Services Agency, the Division of Research undertook a project to provide quantitative measures for ranking 551 communities in the state.

The project had a twofold goal, in order to meet the Agency's concern: first, develop an easily interpretable measure of the economic condition of every Indiana incorporated area (called "city" in this article); second, examine all cities and identify those that might be appropriate targets for revitalization funds.

The following two sections describe the components and formation of the City Revitalization Quotient (CRQ) that was established for this project.

COMPONENTS OF THE CITY REVITALIZATION QUOTIENT

The investigators first had to sort through a large selection of economic and social variables in an attempt to assemble a set of data that could be used to generate a rough economic profile of every Indiana city. To qualify, each factor had to meet most of the following prerequisites:

a) widely available
b) unambiguous
c) internally consistent
d) current
e) statistically independent

Widely available data are numbers that are available for *all* Indiana cities.

Unambiguous data have a single dominant interpretation.

Internally consistent data are derived by the same method for every city.

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*Louis J. West was a research associate in the Division of Research at the time this project was undertaken. He wishes to thank Morton J. Marcus for aid in the conceptualization of the process described herein.

Current data are the most recent and most accurate data available.

Ideally all criteria chosen are *statistically independent* and government or industry planners or economic analysts can readily convert the data into unambiguous concepts that can be correlated directly to observable components of an area's economy. Even if the necessary human, financial and computer resources are available, however, developing independent factors will not guarantee that they will be interpretable. Consequently, this project, instead of focusing upon statistical rigor, sought variables that can provide, without excessive redundance, a broad economic view of a city.

At the end of the screening process, fifteen components had been grouped into five major categories.

FACTORS

1) Population
    a) absolute population growth
    b) population growth relative to rest of county
    c) dependency ratio—an age measure of the proportion of a population that is potentially dependent upon the traditionally income-earning ages of that population.
2) Personal Income
    a) level of per capita money income
    b) growth in per capita money income
    c) absolute growth in aggregate income
    d) growth in aggregate income relative to rest of county.
3) Housing
    a) percent lacking some plumbing facilities
    b) percent overcrowded (more than one person per room)
    c) percent more than thirty years old
    d) percent with gross rent greater than twenty-five percent of occupants' income.
4) Property assessed valuation
    a) valuation growth
5) Employment
    a) per capita employed (ratio of total employed to portion of population of labor-force age)
    b) industry concentration (1977) (measures how concentrated employment is among the various industry sectors—for example, construction, mining, and manufacturing)
    c) annual unemployment rate

FORMATION OF THE CITY REVITALIZATION QUOTIENT

Many techniques can be used to combine the above fifteen variables in a manner that will provide a rough estimate of the economic condition of all Indiana cities.

One method compares the data to some state or national norm delineating "above average," "average," and "below average" classifications. The Department of Housing and Urban Development did this when it chose to include the percent of families at or below the 1970 poverty level in its distress formula.[1] This technique certainly can simplify the analysis; however, it attempts to apply a rigid, static standard to regions with dissimilar characteristics and environments that are changing with time.

A second technique modifies the first by using a cutoff point that divides the results into those areas economically healthy and those under economic stress. This system does not distinguish degree of need—a marginal city and one desperately in need of assistance receive identical treatment.

A third technique uses a weighting scheme to combine all the components into a single composite indicator. This certainly is a simple approach, but it eradicates all possible profile detail. Two places can have the same composite number but be radically different in terms of which aspects of their economies are in need.

---

[1] "Decentralizing Community Development," U.S. Department of Housing and Urban Development, HH1.2035.

A fourth approach involves the development of major factors. By aggregating all the input variables along lines of similarity, a profile of several parts can be built.

A combination of three of the above methods was chosen by this project: one of the 15 components, overcrowded housing, involved the use of a subjective norm; all 15 variables were grouped into 5 major classifications in order to generate an economic profile; the 15 factors were also combined into a single composite indicator, a City Revitalization Quotient (CRQ).

In addition, all of the following attributes were included in the design for the method of processing and combining data:

1) uses only readily available data
2) does not require any highly specialized tools or techniques
3) measures degree of severity of need
4) gives unbiased results with respect to city size
5) user easily understands process
6) considers all cities within the context of the state, not some national standard
7) tries alternative weighting schemes in order to minimize the impact a large variation in a particular component might have on the final composite indicator.

MECHANICS OF THE METHODOLOGY

Each city has a number associated with it for any one variable. For example each city has a rate of population growth. Instead of using an externally determined value to identify cities as to whether they are growing rapidly or slowly, compared to the state or the nation, the method used here compares each city only to the set of all 551 cities in Indiana. How far above or below the average a city may be is determined not by the absolute value of its growth rate, but by its relative growth rate within the distribution of values for all cities. Cities are still ranked but the value now assigned to each city's growth rate is not the rate of growth itself but the relative position of that city among all cities in Indiana, assuming a normal distribution of values around the mean for all cities.

Standardization

In order to express all five major factors and fifteen variables in the same units of measurement, each variable was standardized (normalized). Standardization was accomplished by:

a) finding the mean and the standard deviation for each set of data (one set per variable)
b) subtracting the mean of a particular data set from each value in that set
c) dividing the difference for each data set by the associated standard deviation.

This generated the standardized value or Z-score for each observation. (Examples of standardization are found in the first part of the "Results" section).

Formation of Major Factors

The formation of the five major factors (population, personal income, housing, property assessed valuation, and employment) in order to create an economic profile was quite straightforward. Positive indicators (a large value connotes a favorable economic environment) were assigned a weight of +1, and negative indicators (a large value implies poor economic conditions) were assigned a weight of −1. Major factors then were calculated by summing the normalized values of the appropriately weighted variables.

Table 1
CHOICES FOR SYSTEM OF WEIGHTS

	Percent Contribution With Various Systems					
Factor	*System*					
	A	*B*	*BxC(ACCL)**	*BxC(LIN)**	*BxC(DECL)**	*D = AxC(LIN)**
Population	20.0	20.0	24.0	24.3	24.8	27.0
Income	26.7	20.0	23.2	21.6	19.6	32.0
Housing	26.7	20.0	4.6	2.7	0.3	4.0
Property Valuation	6.7	20.0	24.2	27.0	30.6	10.0
Employment	20.0	20.0	24.0	24.3	24.8	27.0

**BxC(ACCL)*: This is the adjusted product of equal weights for each major factor and the accelerating reduction in weights.

BxC(LIN): This is the adjusted product of equal weights for each major factor and the linear reduction in weights.

BxC(DECL): This is the adjusted product of equal weights for each major factor and the decelerating reduction in weights.

D = AxC(LIN): This scheme chosen for this project is equivalent to the product of equal weights for all 15 components and the adjusted linear reduction in weights.

Weighting

To assemble the final composite indicator a system of weights had to be selected from among the number of choices available. (See Table 1.)

System A gives equal weights for *each* of the fifteen *components.* A does not make any adjustments for age of the data and would probably bias the results towards the most numerous type of indicator.

System B gives equal weights for each of the five *major factors.* B also does not adjust for age of the data and would imply that the least numerous types of variable were the most significant.

System C adjusts for age of the data with either an accelerating, linear or decelerating reduction in value of weights. (See Table 2.) While diminishing the contribution of older data, System C assumes that different types of data for various cities age at the same rate. This contradicts the observation that old data may cause significant misrepresentations for smaller communities. Specifically, upgrading 100 housing units could dramatically improve housing conditions in a town of 5,000 while barely affecting the overall status of housing in a city of a half million.

System D is the choice of the project. This system adjusts for age of the data using linearly-reducing weights and also weights each major factor according to its number of components. Such adjustments minimize the impact a large variation in a particular variable can have upon the composite indicator and lessen, in a simple way, the contribution that older data make.

Since choosing a system of weights is somewhat arbitrary, the weaknesses of a single

Table 2
SYSTEM C
ADJUSTMENTS FOR AGE

Age (years)	*Accelerating*	*Linear*	*Decelerating*
1	1.00	1.00	1.00
2	0.99	0.90	0.81
3	0.96	0.80	0.64
4	0.91	0.70	0.49
5	0.84	0.60	0.36

composite number are obvious. There simply is not a "best" system, but one can be tailored to address a specific set of questions.

RESULTS–SAMPLE CALCULATIONS

A set of calculations that demonstrates in detail the data manipulations involved in deriving the various final indicators is listed below for Bloomington, Indiana.

An analysis of each factor follows.

Population. The ratio of the 1978 and 1970 population figures (50,344/48,530) yields an absolute growth of 3.7 percent for an eight-year period. Standardizing this number [(1.037 – 1.063)/0.339] creates a normalized value of –0.075. The three population variables are combined as follows, since the two growth variables are positive indicators and the dependency ratio is a negative indicator:

$$-0.075 + (-0.253) - (-3.302) = 2.974$$

Standardizing this number

Table 3
DATA FOR BLOOMINGTON, INDIANA

		Distribution Values		
Input Variable	*Value*	*Mean*	*Std. Dev.*	*Normalized Value*
Population Growth	1.037	1.063	0.339	–0.075
Relative Population Growth	0.913	0.996	0.326	–0.253
Dependency Ratio	0.240	0.627	0.117	–3.302
Per Capita Income (PCMI)	5.059	5.267	1.024	–0.203
PCMI Growth	1.779	1.859	0.120	–0.672
Aggregate Income Growth	1.845	1.982	0.718	–0.190
Relative Agg. Income Growth	0.871	0.989	0.328	–0.359
Deficient Plumbing	0.032	0.014	0.011	1.608
Overcrowded	0.061	0.064	0.033	–0.095
Over 30 Years Old	0.356	0.610	0.204	–1.248
Rent/Income More Than 25 Percent	0.306	0.044	0.042	6.200
Property Value Growth	1.043	1.173	0.213	–0.613
Per Capita Employed	0.473	0.685	0.102	–2.087
Adj. Hirfindahl Index	0.172	0.104	0.074	0.922
Unemployment Rate	7.000	6.697	1.732	0.175
Major Factor				
Population	2.974	0.0	2.372	1.254
Income	–1.425	0.0	2.941	–0.484
Housing	–6.465	0.0	2.273	–2.844
Property Valuation	1.043	1.173	0.213	–0.613
Employment	–3.184	0.0	2.195	–1.450
Composite (CRQ)	–0.383	0.0	0.694	–1.345

[(2.974 − 0.0)/2.372] generates the normalized population major factor of 1.254. Table 4, "How to Interpret Standardized Scores," shows that Bloomington falls just below the 90th percentile of all Indiana cities. In other words, only some 60 cities experienced a more favorable (economic) population growth and composition than did Bloomington. In fact, because of Bloomington's large student component, the proportion of the population dependent for support upon those of labor-force age (15-64) is quite small.

Income. The four income variables are all positive indicators and are combined as follows:

$$-0.203 + (-0.672) + (-0.190) + (-0.359)$$
$$= -1.425$$

Standardizing yields a value of −0.484, which places Bloomington around the 30th percentile. Thus, some 385 cities are better off in terms of the impact income has upon the local economic health. This is understandable because of low population growth and the "depressing" effect the student component has upon per capita income.

Housing. All four variables are negative indicators.

$$-(1.608) - (-0.095) - (-1.248) - (6.200)$$
$$= -6.465$$

When standardized (−2.844) these indicators place Bloomington as one of the ten worst cities in the state in terms of housing conditions. However, the housing results are based strictly on 1970 data. More recent data could provide a more positive picture of Bloomington's *current* housing conditions.

Property Valuation. This is a single variable major factor (−0.613) and is not weighted heavily in the final composite indicator. By this value, Bloomington ranks among the bottom 130 cities. Someone looking for inexpensive housing and/or a place where the pace of change is relatively slow might regard this factor favorably. But methods of property valuation differ from county to county, thereby limiting the usefulness of this information.

Employment. One positive and two negative indicators combined

$$-2.087 - (0.922) - (0.175) = -3.184$$

and standardized (−1.450) paint a picture of a city among the thirty worst in the state in terms of employment opportunities. Yet because most of the student population is not employed full-time, a large part of the indicated economic stress is probably only apparent and not real.

Composite CRQ. Using System D (see page 6) as the linear weighting scheme

$$1.254 \times 0.27 + (-0.484) \times 0.32 + (-2.844)$$
$$\times 0.04 + (-0.613) \times 0.10 + (-1.450) \times 0.27$$
$$= -0.383$$

The standardized result (−1.345) ranks Bloomington among the fifty cities in this state with the worst economic profile.

However, the above discussion has shown that this conclusion cannot be accepted at face value. Does this mean that all these factors and indicators are meaningless? Not at all. Bloomington is one of a few unique cities in the state of Indiana where students constitute a substantial portion of the population. For that reason it was chosen as an example. Even though the bulk of the student population has limited current labor market participation, the kind of revitalization need is not that traditionally associated with massive layoffs, blighted housing, middle class flight, and depressed economies. The use of Bloomington as an example clearly demonstrates the limitation of these indicators. They are strictly intended as statistical aids to the decision process and are not meant to substitute for familiarity that can only come from detailed field work and additional study of specific cities done by persons familiar with how the fifteen economic variables apply to these specific cities.

Table 4

HOW TO INTERPRET STANDARDIZED SCORES

(Total number of cities = 551)

Many common interpretations of standard scores can be made using one of the following guides:

A

Standard score	2.0	1.5	1.0	0.5	0.0	–0.5	–1.0	–1.5	–2.0
Percentile rank	98	93	84	69	50	31	16	7	2

For a particular measure, for example, if a city has a score of 1.5 or better, it falls in the top 7 percent of all cities in the state, while if it has a score of –1.5, it falls in the bottom 7 percent of the state.

B

Standard score	1.65	1.28	0.67	0.25	–0.25	–0.67	–1.28	–1.65
Percentile rank	95	90	75	60	40	25	10	5

For example, if a city has a score of –1.1, it falls in the bottom quarter of the state for that characteristic but not in the bottom tenth.

C

Approximate category	*Standard score needed*
Top 10 cities	2.09 or higher
Top 50 cities	1.34 or higher
Top 100 cities	0.91 or higher
Bottom 10 cities	–2.09 or lower
Bottom 50 cities	–1.34 or lower
Bottom 100 cities	–0.91 or lower

For example, a city with a score of –1.48 can be called one of the fifty cities most in need of revitalization for that characteristic.

D

Approximate category	*Standard score needed*
Top 13 cities	2.0 or higher
Top 37 cities	1.5 or higher
Top 87 cities	1.0 or higher
Bottom 13 cities	–2.0 or lower
Bottom 37 cities	–1.5 or lower
Bottom 87 cities	–1.0 or lower

For example, a city with a score of 1.6 is among the 37 highest cities in Indiana in that category.

VARIABLES USED

City population growth rate (1978/1970). Growth occurs if births are greater than deaths, there is a net immigration, or annexations take place. Since the 1970 data have been adjusted retroactively for annexations, calculated growth rates will not reflect stresses upon municipal utilities that are likely when city boundaries are extended. Two types of revitalization need can be identified: a) a slowly growing city may lack the capacity to attract people and/or jobs (exclusive communities that have deliberately chosen a low or zero growth rate are exceptions); b) a city growing much faster than average may be stressed if its utilities and public infrastructure resources are overburdened.

City population growth rate (1978/1970) relative to the growth rate of the rest of the county. Although this is not a statistically independent measure, it is an effort to assess secondary stresses caused by unbalanced local economic changes. If a city is growing at a pace markedly different from that of its surrounding county environment, an imbalance in the economic resources throughout this particular county can be implied.

Dependency ratio (1977). This is the ratio of all people not of labor-force age to those who are of labor-force age (ages 15 through 64). Dependency ratio can be considered a measure of the proportion of a population that is dependent (directly through family support or indirectly through government aid programs) upon those who are potential wage earners. An economically declining region probably evinces an increase in net outward migration of people of labor-force age seeking better opportunities, and, therefore, shows a higher dependency ratio. In order to make the city figures more current, since population data by age for cities can be obtained only from the 1970 Census, it is necessary to weight them with the ratio of the county dependency ratio (D.R.) in 1978 to the county D.R. in 1970. Thus, every city is effectively adjusted by the direction of its local county behavior. Even then, for some small cities 1970 census data are not available. In these situations the county D.R. in 1978 is used as a proxy for the city.

City per capita money income (PCMI) (1977). This will provide an estimate of relative differences between areas, assuming that the cost of living is similar. Since cost-of-living information is available for only 7 Hoosier cities this variable attempts, in general, to assess the relative standard of living for individual places.

City PCMI Growth rate (1977/1969). Ideally this figure should be in real terms; however, lacking such data, this variable simply estimates the rate of change of a particular area's standing of living.

City growth rate in aggregate income (1977/1969). This measure, calculated from population growth and change in PCMI, allows examination of the total income resources of a community. It can also be used to resolve ambiguous trends indicated by conflicting population and PCMI growth rates (i.e., one increasing and the other decreasing). Growing aggregate income suggests increasing amounts of funds available for support of public- and private-sector activities.

City growth rate in aggregate income (1977/1969) relative to the growth rate of the rest of the county. By comparing a city's total income resources to that of its immediate environment, extra stresses can be discerned that indicate possible imbalances in the distribution of the county's economic resources.

Housing. Among the variables used, the data for the following variables on housing are available only from the 1970 census.

Age of housing (percent of city's housing units more than thirty years old). Certainly, this figure cannot be construed to measure housing conditions. However, it can be interpreted as a proxy for community age and infrastructure needs.

Crowding (percent of city housing units with more than one person per room). Overcrowding is a useful indicator of the existence of an inadequate housing stock. Exceptions are regions that have a serious problem of housing stock abandonment or those where overcrowding is apt to be voluntary, such as in cities with large student populations.

Plumbing (percent of city housing units lacking some facilities). Any deficiency in adequate running water facilities is used to imply some need for housing revitalization.

Gross rent as a percent of income (percent of city housing units with this ratio greater than twenty-five percent). A family and/or wage earner who spends more than twenty-five percent of income on rent is probably financially overextended.

City growth rate in assessed property value (1979/1976). A high growth could imply good economic opportunities both for industry and for wage earners. As with population growth, an exceptionally high rate could suggest an overextension of resources. Because of weaknesses that exist with this variable, since methods of assessment and frequency of updating vary from area to area, it is not weighted heavily in the final composite indicator (see page 8).

Per capita employed (1977) (number of persons employed in a city as a percent of all people of labor-force age). Here again labor-force age is the group aged 15 through 64. This measure, which accounts for trends in unemployment as well as growth in the labor force, can give an indication of the proportion of an area's labor resources that is being utilized. Since the 1970 census is the most recent source for city population by age, these figures will be updated to 1977 by weighting with the ratio of county per capita employed (1977)/county per capita employed (1970).

Industry concentration (1977) (adjusted Hirfindahl Index). By calculating how concentrated the industry is in a particular city, some conclusions can be drawn as to the volatility of that city's economy. If an area is highly specialized in a few types of industries (for example, if most jobs come from a single major auto plant), its economic health is affected by the fortunes of those industries as well as by the overall fluctuations in the state and national economy. As with per capita employed, the most recent data at the city level are from the 1970 census. Consequently, the city figures were updated to 1977 by weighting with the ratio of county industry concentration (1977)/county industry concentration (1970). This index (A.H.I.) is calculated as follows:

$$AHI = (NX - 1)/(N - 1)$$

where N is the number of industry sectors (in this case 8) and X is the sum of the squares of the proportion of number employed in each sector to total employed.

Unemployment rate (1978). This county annual average rate is added simply to adjust in a non-specific manner each city's economic profile according to more current employment figures.

AIDS TO INTERPRETING RANKS

Data serve as a guide to the economic health of a city and are not an error-free picture of reality.

Ranks are generated solely for the purpose of comparing the conditions of one city to another. Because of the margin of error introduced by the various sampling techniques used to assemble this data, a rank differential of 25 or less is considered insignificant. It is more appropriate to classify all cities by percentile groups; thus, a city in the top 5 percent can be considered distinctly different from one in the top 15 percent, while such distinction cannot be made for a city ranked 10th of 551 and a city ranked 20th of 551.

Two indicators, housing and property valuation, are not now interrelated because of the great difference in age of the two data sets. When the 1980 housing data are included some correlation should arise between these two variables.

Some awareness of each county's particular variations in methods of property assessment is necessary in order to interpret property valuation ranks.

A city with a low ranking employment (high rank number) may actually be a bedroom community where many people live but few jobs exist. This discrepancy could be resolved if employment data by place of residence were known. Unfortunately, it is not. Only employment by place of work can be obtained.

SAMPLE RANKINGS

With considerable hesitation, the following results are offered. Readers are reminded of all the caveats in the foregoing pages that these results depend on data available at the time the study was undertaken, and that conditions may have changed. When the 1980 Census data become available, the method described here could be a powerful tool for identifying areas in need of aid. The results in Table 5 are presented only for illustrative purposes rather than policy decisions at this time.

Each city in the state can be ranked according to its standardized score for each of the five major factors. A rank of number 1 indicates that this city is least in need of revitalization as shown by the preliminary work done in this study, given the data limitations discussed above. As the rank declines, the revitalization need may be thought to increase. Rank 551 is the bottom of the list and hence may be considered most in need of revitalization. Readers and residents will draw their own conclusions. Administrators of city revitalization programs will wish to study the findings in greater detail before acting. Complete statistical results are available from the State Planning Services Agency.

Table 5
RANKING OF SELECTED CITIES
AMONG 551 INDIANA CITIES
(Grouped by Population Size)

Rank	*City*	*Value*
254	South Bend	+ .001
260	Terre Haute	– .031
323	Muncie	– .210
324	Anderson	– .211
327	Kokomo	– .222
472	Gary	– .772
189	Michigan City	+ .212
224	Elkhart	+ .095
271	Marion	– .064
290	New Albany	– .126
334	Richmond	– .247
402	East Chicago	– .496
360	Shelbyville	– .344
395	Bedford	– .483
435	Elwood	– .612
436	Washington	– .613
460	New Castle	– .725
477	Connersville	– .816
478	Charlestown	– .819
482	Attica	– .845
487	Dunkirk	– .894
511	Rising Sun	– 1.088
513	Loogootee	– 1.108
550	Austin	– 2.063
546	New Amsterdam	– 1.715
547	Bloomingdale	– 1.857
548	Livonia	– 1.937
549	Cannelburg	– 2.025
551	Alton	– 2.291

The data in Table 5 indicate the cities at the bottom of each population group. Bloomington would also be included in this list with a rank of 424 and a composite value of –.552.

Table 6 lists the six cities in Indiana with the highest ranks: those cities that are least in need of revitalization. All six are relatively fast-growing smaller communities with relatively high income levels. They may be experiencing the strains of growth, which are costly, but they do not appear in need of revitalization as such.

Table 6
TOP SIX INDIANA CITIES
(Least In Need of Revitalization)

Rank	*City*	*Composite Value*
1	Santa Claus	+ 13.477
2	Schererville	+ 4.608
3	Carmel	+ 4.102
4	Fishers	+ 3.598
5	St. John	+ 2.983
6	Darmstadt	+ 2.947

Aid to Distressed Communities

ROBERT P. SPACK

Senior Planner, State Planning Services Agency, Indianapolis, Indiana

In recent years, preservation of the nation's cities has been a concern of both the public and private sectors.

The federal government took the first step in addressing this concern by creating a large number of categorical grant programs several years ago. These programs were designed to provide cities with funds so they could begin the process of preservation and revitalization by eliminating slums and blight.

The federal government has demonstrated the importance of American cities and has expressed concern for their immediate attention through the President's National Urban Policy. This concern to provide assistance to cities exhibiting the greatest need is reflected in the National Objectives of the National Urban Policy:

> to conserve and improve existing communities by correcting or modifying conditions of distress, blight and decline;
>
> to increase housing and employment opportunities and choice for the poor minorities and disadvantaged; and
>
> to promote orderly and efficient growth and development which prevent future conditions of distress and conserve existing communities.

States and other units of general local government are also emphasizing the need for conservation and revitalization of their cities and small communities. The State of Indiana, through its State Planning Services Agency (SPSA), and a number of other agencies, offers several programs and services which provide assistance to cities and small communities. Different agencies provide different types of assistance, generally in the form of grants, loans, loan guarantees, or various forms of technical assistance. Funds to operate these programs are either state-administered federal funds, state funds or a combination of both.

SPSA

The State Planning Services Agency (SPSA), created by the 1974 Indiana General Assembly, is part of the Executive Office of the Governor. Though the programs, activities and services provided by SPSA at both the community and the state level cover a broad spectrum, those that most directly impact the cities and small communities in the state are administered through the divisions of local and regional assistance, transportation, and coastal zone management.

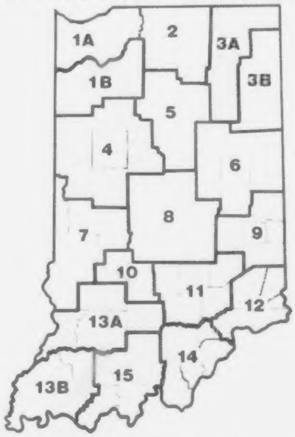
Grants-in-Aid, Loans, Loan Guarantees

Under the broad category of grants-in-aid, loans or loan guarantees, SPSA provides a number of programs and services. The section of **local and regional assistance**, through funding provided by the U.S. Department of Housing and Urban Development, provides planning assistance to communities, upon request, in an effort to meet their specific planning needs. Grants are available on a two-thirds federal and one-third nonfederal share. Any city, town, county, governing body or plan commission representing a population under 50,000 can request assistance, but SPSA does require that those receiving assistance have a plan commission.

SPSA also maintains the management and administration responsibility for eight of the eighteen regional planning commissions throughout the state. (See accompanying map.) The agency allocates federal planning funds earmarked for the respective regions for the purpose of performing basic planning functions. These planning activities may also involve providing technical assistance to communities in the eight regions.

In addition, SPSA administers the Section 601–Energy Impacted Area Development Assistance Program through funds provided by the USDA Farmers Home Administration. The program was enacted to help areas impacted by coal development activities. It provides assistance for the development of growth management and housing plans, and aids in developing and acquiring sites for housing and public facilities and services. Eligible applicants are communities located within an approved designated area, (i.e., a group of counties, a county, or a part of a county designated as an energy-impacted area by the Governor and approved by the Secretary of Energy). One hundred percent federal money is available for the development of growth management and for housing plans or any related aspect of these plans, such as sewer, water, recreation, subdivision, etc. Grants are also available on a seventy-five percent federal, twenty-five percent non-federal basis for acquiring sites for housing, public facilities or services for which financial resources are otherwise not available. Examples include: grading and leveling, sewer and water connections, and access roads to housing and public facilities sites.

Figure 1
PLANNING REGIONS ASSISTED BY SPSA



The **Division of Public Transportation** presently administers federal "pass through grants" in four major areas. 1) A state matching grant program provides communities with public transportation agencies with funding to partially match federal grants for capital and operating assistance. 2) The division also administers a program of the U.S. Department of

Transportation which provides capital and operating assistance for urban and rural areas under 50,000 in population. 3) The state presently awards Section 8 grants to metropolitan planning organizations that serve areas with a population of between 50,000 and 200,000. Through this program, the division administers funds from the Urban Mass Transportation Administration (UMTA) to support federally required planning tasks. 4) Another UMTA program handled by the division provides capital assistance to nonprofit corporations to purchase vehicles used primarily for providing transportation to the elderly and handicapped.

SPSA has been designated as that branch of Indiana government responsible for implementing programs of the U.S. **Office of Coastal Zone Management** (OCZM) and is presently involved in the administration of two federal programs in an effort to preserve, protect or develop the Lake Michigan shoreline. Since 1975, Indiana has used large quantities of federal and state funds to develop its shoreline management programs. Once the shoreline management program is approved and implemented by the state, Indiana will be eligible to receive additional federal funds on an annual basis. More than half of these funds are earmarked for local governmental units in the shoreline area so that they can carry out projects and studies addressing six areas of concern: economic development, access to the shore, natural hazards, living resources and their habitats, energy issues, and disposal of dredging spoils.

SPSA also administers the Indiana Coastal Energy Impact Program (CEIP). CEIP was established to provide grants and credit assistance to sixteen communities[1] in the Lake Michigan shore area in order to help them deal with the impact of new or expanded coastal energy development. Planning grants are available to help coastal communities prepare for the social, economic and environmental consequences of new or expanding energy facilities. Grants are available on an 80 percent federal, 20 percent nonfederal basis. Credit assistance is also available in the form of direct loans or loan guarantees to help finance new or improved public facilities and services required as a result of coastal energy activity. Credit assistance has been used to finance the construction of parks and recreation centers, for improvements to wastewater and water treatment systems, and for the purchase of emergency vehicles. In addition, environmental and recreation grants are available to coastal communities to help prevent, reduce or repair the harm or loss of a valuable environmental or recreational resource caused by a coastal energy activity. These particular grants have been used to construct boat launches and fishing piers and to acquire property for recreational and environmental uses and are available on a 100 percent federal basis.

Technical Assistance

SPSA offers a number of technical assistance programs and services. Under the section of **local and regional assistance**, SPSA, through funding provided by the U.S. Department of Housing and Urban Development, provides technical assistance for establishing a local plan commission, for review of local comprehensive plans and ordinances or for solving specific technical problems. This direct technical assistance is intended for communities and counties who do not have a local professional staff or access to a regional staff. The assistance is based on the urgency of the need, the nature of the request and the availability of SPSA staff to undertake the job.

In addition to administering federal grants, the **Division of Public Transportation** is also involved in providing local technical assistance.

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[1] CEIP assists the county governments in Lake, Porter and LaPorte Counties and the communities of Beverly Shores, Burns Harbor, Dune Acres, East Chicago, Gary, Hammond, Long Beach, Michiana Shores, Michigan City, Ogden Dunes, Portage, Porter Potawatomi Park, Town of Pines, Trail Creek, and Whiting.

Personnel may assist local officials in maintaining a community's eligibility for federal grants, or in improving transit operations. They may also assist in the formulation of transportation programs that better provide for the needs of the elderly or handicapped. Also, technical assistance can be offered to a locality just becoming involved with a transit service. Other aid includes helping local officials understand specific federal requirements and the grant process, and providing assistance in completing a grant application. In addition, the division can work with local communities to improve management of an existing service or evaluate various service options available to a specific locality.

In addition to SPSA, several other state agencies offer programs and services designed to assist cities, towns and other units of general local government. These programs are too numerous to describe in full, but the following is a general summary of the types of programs and services offered by various state agencies.

OTHER STATE AGENCIES

The two state agencies in Indiana responsible for providing housing assistance are the State Housing Board and State Housing Finance Authority. **The State Housing Board** is responsible for the administration of the Department of Housing and Urban Development's Section 8 Existing and Moderate Rehabilitation Program, which provides housing assistance to eligible persons of low and moderate income. The **State Housing Finance Authority** is responsible for the administration of the Single Family Mortgage Program. This program provides funds for long-term mortgage financing of residential housing so that qualified persons in the state are encouraged to purchase or to construct residential housing. Eligible persons are residents of Indiana whose family income is 80 percent or less of median income of the area or up to 25 percent above that median income.

The Indiana Department of Commerce is the state agency primarily responsible for economic and industrial development. The Department administers a variety of programs that provide assistance in the form of grants, loans, tax credits and technical assistance. Funds from these programs can be used for, but are not limited to, the following: to help finance community economic development projects intended to enhance long-term economic growth; to coordinate programs relating to economic developments; to provide financial assistance for land acquisition, building construction, machinery and inventory for industrial/commercial development; to provide financial and technical assistance in the development of tourism; and to provide technical assistance in the preparation of economic development planning programs.

The Indiana Department of Natural Resources offers a number of services, generally in the form of technical assistance, through its Divisions of Forestry, Historic Preservation, Outdoor Recreation, and Water. Loans and grants are available for a few programs. The Division of Forestry provides financial assistance to rural communities–populations under 10,000–for the purchase of fire protection equipment, training or organization. It also provides technical assistance for the maintenance or development of an urban forestry program. The Division of Historic Preservation gives assistance in methods for assessing information and in techniques of historic preservation and gives guidance in attaining eligibility for tax benefits and grants-in-aid. The Division of Outdoor Recreation provides assistance for the acquisition, planning and development of outdoor recreation facilities. It also provides technical planning assistance in the form of training sessions and conferences aimed at developing recreational opportunities. The Division of Water is primarily responsible for providing both technical and developmental assistance in the area of flood control. The division grants loans for the construction of flood control measures and provides information and assistance regarding flood plain management.

In addition to the state government measures, Purdue University, through its Department of Agricultural Economics, conducts planning and zoning workshops for local planning officials regarding their duties and responsibilities and general planning and zoning issues.

The State of Indiana also administers a tax abatement program. The program allows for a ten year partial abatement of property taxes on building construction or rehabilitation projects in designated areas.

Other Agencies
That are Sources of Assistance

Cooperative Extension Service
at Purdue University
Historic Landmarks Foundation
of Indiana
Indiana Arts Commission
Indiana Association of Cities and Towns
Regional Planning Commissions
State Board of Health
State Highway Commission

THE FEDERAL GOVERNMENT

The federal government is the primary source for obtaining financial and technical assistance for the conservation and improvement of existing cities and small communities. The **Farmers Home Administration** (FmHA) under the U.S. Department of Agriculture, is primarily responsible for providing assistance to rural communities. Loans, loan guarantees and grants are provided for: housing construction, rehabilitation and acquisition; development of business and industry and economic development programs; construction, enlargement or extension of community facilities; acquisition and conversion of buildings, plants, roads, utilities, etc., for industrial development; development of recreational facilities, rail and water conservation and control and water storage facilities; and installation, repair or expansion of rural water facilities including sanitary and storm sewage and solid wastes. Grants are also provided to facilitate the development of private businesses in rural communities through the development of comprehensive planning processes and the updating of existing plans and ordinances. Technical assistance is available for carrying out self-help housing rehabilitation efforts.

The **Economic Development Administration** (EDA), under the U.S. Department of Commerce, provides both financial and technical assistance for economic/industrial development. Project grants, loans and loan guarantees can be used for the following general purposes: construction of public facilities needed to initiate and encourage long-term economic growth; provision of financial assistance to downtown businesses that create permanent jobs or to plants expanding within redevelopment areas; provision of immediate useful work to unemployed and underemployed persons in designated project areas; development and improvement of public facilities, public utilities and commercial activity in areas suffering from long-term economic decline; development of projects intended to initiate or enhance long-term economic growth; financial assistance to help areas meet special needs resulting from sudden and severe economic dislocations; and planning assistance to develop the capacity to undertake comprehensive economic planning programs and strategies. Technical assistance is also available to provide designated areas with data, information and expertise in shaping and evaluating economic development programs.

The **Department of Housing and Urban Development** is probably the primary source from which cities and small communities obtain assistance. HUD administers a large number of programs and services that provide financial and technical assistance in the general areas of housing and community and economic development, most notably the Community Development Block Grant Program (CDBG). The purpose of this program is to develop more viable communities and expanded economic opportunities, and includes such activities as comprehensive planning, property acquisition, relocation, demolition, housing rehabilitation, the provision of public facilities, economic development, and energy conservation. The Urban Development Action Grant Program (UDAG) provides assistance to communities suffering from physical and/or economic stress, for the purpose of economic and neighborhood revitalization. The Department also provides assistance for acquisition, construction or rehabilitation of single and multi-family housing units, and mortgage insurance to help families purchase or rehabilitate single family homes. Mortgage insurance is also available for the construction of multi-family housing units and for the purchase of these units by eligible buyers. In addition, comprehensive planning assistance is available to assist in the development of comprehensive plans and ordinances or for specific planning studies.

Other Agencies
That Are Sources of Assistance

Environmental Protection Agency
Federal Highway Administration
General Services Administration
Heritage Conservation
and Recreation Service
Rural Electrification Administrator
Small Business Administration
Soil Conservation Service
Urban Mass Transportation Administration
U.S. Forest Service

Appendix

The following list gives addresses and phone numbers of agencies mentioned in Mr. Spack's article as well as other state and federal agencies.

STATE SOURCES FOR PROGRAMS AND SERVICES

Department of Commerce
440 N. Meridian Street
Indianapolis Indiana 46204
317-232-8800

Department of Natural Resources
Division of Forestry
Room 613, State Office Building
Indianapolis, Indiana 46204
317-232-4105

Department of Natural Resources
Division of Historic Preservation
202 North Alabama
Indianapolis, Indiana 46204
317-232-1637

Department of Natural Resources
Division of Outdoor Recreation
Room 612, State Office Building
Indianapolis, Indiana 46204
317-232-4070

Department of Natural Resources
Soil and Water Conservation Committee
Agricultural Administration Building, Room 7
Purdue University
West Lafayette, Indiana 47907

Department of Natural Resources
Division of Water
Room 605, State Office Building
Indianapolis, Indiana 46204
317-232-4160

Agricultural Economic Department
Krannert Building
Purdue University
West Lafayette, Indiana 47906

State Highway Commission
Room 1101, State Office Building
Indianapolis, Indiana 46204
317-232-5519

Indiana State Housing Board
I.S.T.A. Annex
111 N. Capitol
Indianapolis, Indiana 46204
317-232-7072

Indiana Housing Finance Authority
201 East Waine St.
P.O. Box 11468
Fort Wayne, Indiana 46858
219-423-2368

Indiana State Planning Services Agency
Harrison Building, Suite 300
143 West Market Street
Indianapolis, Indiana 46204
317-232-1470

FEDERAL SOURCES FOR PROGRAMS AND SERVICES

DEPARTMENT OF AGRICULTURE

Farmer's Home Administration
Department of Agriculture
Washington D.C. 20250
202-947-7967

Farmer's Home Administration, State Office
Suite 1700
5610 Crawfordsville Road
Indianapolis, Indiana 46224
317-269-6414

U.S. Forest Service Regional Office
Clark Building
633 West Wisconsin Avenue
Milwaukee, Wisconsin 53203
414-224-3640

Rural Electrification Administration
Department of Agriculture
Washington, D.C. 20250
202-447-5123

Soil Conservation Service
Department of Agriculture
P.O. Box 2890
Washington, D.C. 20013
202-447-4531

Soil and Water Conservation State Office
Suite 2200
5610 Crawfordsville Road
Indianapolis, Indiana 46224
317-269-6515

DEPARTMENT OF COMMERCE

Economic Development Administration
Department of Commerce
Washington, D.C. 20230
202-377-5113

Economic Development Administration
Department of Commerce
Regional Office
175 West Jackson Blvd., Suite A1630
Chicago, Illinois 60604
312-353-7706

Economic Development Administration
Economic Development Representative
46 East Ohio Street
Indianapolis, Indiana 46204
317-269-6210

DEPARTMENT OF DEFENSE

U.S. Army Corps of Engineers
Civil Works Activities
North Central Division
536 South Clark Street
Chicago, Illinois 60605
312-353-6400

ENVIRONMENTAL PROTECTION AGENCY

Environmental Protection Agency Regional Office
230 South Dearborn, 12th Floor
Chicago, Illinois 60604
Construction Grants–312-353-2121
Drinking Water Grants–312-353-2151

GENERAL SERVICES ADMINISTRATION

General Services Administration Regional Office
230 South Dearborn Street
Chicago, Illinois 60604
312-353-5556

DEPARMENT OF HOUSING AND URBAN DEVELOPMENT

Division of Community Planning and Development
Department of Housing and Urban Development
451 Seventh Street, S.W.
Washington, D.C. 20410
202-755-5111

Department of Housing and Urban Development
Regional Office
300 South Wacker Drive
Chicago, Illinois 60606
312-353-5680

Department of Housing and Urban Development
Area Office
151 North Delaware
Indianapolis, Indiana 46204
312-269-6311

DEPARTMENT OF THE INTERIOR

Heritage Conservation and Recreation Service
Department of the Interior
Washington, D.C. 20240
202-343-5726

Heritage Conservation and Recreation Service
Lake Central Region
Federal Building
Ann Arbor, Michigan 48107
313-7969-3211

State Historic Preservation Officer
Director, Indiana Department of Natural Resources
608 State Office Building
Indianapolis, Indiana 46204
312-232-4020

National Park Service
18th and C Streets
Washington, D.C. 20240
202-523-5169

National Park Service
Midwest Regional Office
1709 Jackson Street
Omaha, Nebraska 68102
402-221-3431

SMALL BUSINESS ADMINISTRATION

Small Business Administration
Office of Community Development
1441 L. Street, N.W., Room 818
Washington, D.C. 20416
202-382-5301

Small Business Administration
Regional Office Federal Building
219 South Dearborn Street, Room 437
Chicago, Illinois 60604
312-353-4400

Small Business Administration
District Office
575 North Pennsylvania Street
Indianapolis, Indiana 46204
317-269-7272

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration
Department of Transportation
Office of Airports Planning and Programming
800 Independence Avenue, S.W.
Washington, D.C. 20591
202-426-8434

Federal Aviation Administration
Department of Transportation
Great Lakes Region
2300 Des Plaines Avenue
Des Plaines, Illinois 60018
312-694-2291

Federal Aviation Administration
Department of Transportation
District/Field Office
2300 East Devon Avenue
Des Plaines, Illinois 60018
312-649-4500

Federal Highway Administration
Department of Transportation
Washington, D.C. 20090
202-426-0650

Federal Highway Administration
Regional Office
18209 Dixie Highway
Homewood, Illinois 60430
312-799-6300

Federal Highway Administration
State Office
575 North Pennsylvania Street, Room 245
Indianapolis, Indiana 46204
317-269-7474

Federal Railroad Administration
Regional Office
Room 210, 536 South Clark Street
Chicago, Illinois 60605
312-353-6230

Urban Mass Transportation Administration
Department of Transportation
400 7th Street, S.W.
Washington, D.C. 20590
202-426-4020

Urban Mass Transportation Administration
Regional Office
300 South Wacker Drive, Suite 1740
Chicago, Illinois 60606
312-353-2789

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Indiana Business Review

1981

Business Outlook

INDIANA UNIVERSITY
School of Business / Division of Research

BEST AVAILABLE COPY

BUSINESS OUTLOOK 1981–A MESSAGE FROM THE DEAN

The economy of the United States is recovering from the recession of 1980. This recent downturn has had several contributing causes–all of which are interrelated in the short- and the long-term. Direct actions are required to improve the nation's ability to absorb a growing labor force, to meet the challenge of rising energy prices, to combat inflation, and to make productivity grow steadily once again. In 1981 the nation will attempt to meet these issues with new programs and new hopes.

We are pleased to offer this Business Outlook as a basis for understanding the problems faced by our nation, state and communities. The economic problems of 1980 appear to be turning to the opportunities of 1981. A recovery is in progress, but it will be slow and tentative. For Indiana the path to recovery will depend on the decisions by millions of Americans about their own financial ability to afford new cars, appliances, and homes Each area of the state has a slightly different stake in the decisions of citizens from coast to coast and even from many nations abroad.

Next year offers the hope of better business opportunities. In a climate of recovery some of our long-term problems can be addressed. With appropriate policies and good fortune we can be on the road to stable prices, increased investment in our factories and people alike, and the achievement of higher productivity. Such successes are needed if we are to find sustained prosperity in the decade before us.

S F Otteson

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School of Business
Indiana University

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1981 BUSINESS OUTLOOK

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Page 10, Figure 1. Chris TenEyck and Frank Kushman, research associates; Bob Wagner, graphic artist.

Pages 11 and 12, Figures 2 and 3. SOURCE: U. S. Department of Commerce, Bureau of Economic Analysis. Bob Wagner, graphic artist.

The National Economy

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INTRODUCTION

Recent economic data show evidence of a recovery from the seventh postwar recession, but predictions for growth of the U.S. economy next year are confusing, to say the least. Forecasts for real growth in 1981 have covered a range from +3.5 percent to −3.0 percent. Before we consider the outlook for next year, let us take a look at the 1980 recession. The shortest postwar recession prior to the current one lasted seven months, so the 1980 recession will go on record as one of the, if not *the*, shortest. However, it was not the mildest, since real GNP fell more in 1980 than it did in either of the brief 1960-61 or 1969-70 recessions. In terms of diffusion, the 1980 recession compares with the 1960-61 and 1969-70 recessions, in that about three-fourths of the nonfarm industries in the U.S. registered declines in all three periods of slump.

How does the 1980 recession compare with the more recent 1974-75 slowdown? In one major respect they were quite different. The decline in real GNP was about $60 billion in the first quarter 1975 and in the second quarter 1980 (the major quarters of maximum decline in each recession). The 1975 slowdown, however was almost entirely due to a $50 billion decline in inventory investment, while the 1980 recession was caused mainly by a $50 billion decline in consumption spending, one which in turn was caused mainly by tight credit conditions.

The key to the extent of recovery in 1981 rests with housing, autos, and consumer spending. Housing, particularly, is going to be strongly influenced by mortgage market conditions, and household spending will also depend on credit conditions. The success of the automobile industry rests on widespread consumer acceptance of the small 1981 models of the domestic Big Three, but also depends, in large measure, upon credit conditions as they affect both auto dealers and prospective car purchasers.

The Republican landslide on November 4 has cleared up much uncertainty regarding the overall tone of economic policy for 1981 and the years beyond. The surge of the stock market in November 1980 was triggered by optimistic expectations regarding the control of inflation and future business conditions. It is not yet clear what exact tax and government spending measures will be enacted in 1981, but the overall general nature of the Reagan economic platform has already been expressed during the election campaign. At the heart of the Reagan economic program is a personal tax cut of 10 percent a year for three years, with personal income taxes indexed to the rate of inflation after that period to eliminate "tax bracket" creep. Taxes on business will be reduced through faster depreciation writeoffs, but the individual income tax cut is considered a necessary step toward promoting new investment. A restraint on government spending, which is a modification of Reagan's original position will be coupled with these tax cuts. Reagan originally embraced the view that the expansionary multiplier effects of tax cuts would generate demand sufficient that higher levels of output would generate tax revenue sufficient to offset the cut in tax *rates*. He has since been persuaded that tax cuts must be coordinated with an assault on government spending. The current Reagan thinking calls for government deficits during the first two years of the new administration, with budget surpluses in the latter half of the Presidential term. The cuts in spending have not yet been specified beyond promises to attack waste and inefficiency in government.

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*This forecast was prepared by Professor Brady, with substantial contributions from Professor George W. Wilson. Additional comments were provided by Professors John A. Boquist and Bruce L. Jaffee.

One major point should be made. The political emphasis upon tax cuts for next year is quite misleading. If existing tax rates were to extend into 1981 for the income, social security and petroleum profits taxes already on the books, and if the rate of inflation were to run about 10 percent next year, the amount of tax revenue collected by the government would rise by somewhere between $85 and $91 billion. These additional tax revenues would result from higher social security taxes and from "tax bracket" creep, as inflation puts both households and firms into higher tax brackets. The Reagan tax cut is currently estimated to be in the neighborhood of $30 to $35 billion. When viewed in this perspective, the Reagan platform will result in tax revenues rising by $55 to $60 billion.

There are, however, many factors that make the outlook uncertain for next year. A major consideration is uncertainty as to whether the Federal Reserve will return to a policy of interest rate control after a little more than a year of watching the monetary aggregates. There is current evidence that the economy has turned around, but this does not necessarily mean that 1981 will be a year of robust economic activity, or even that it will be a year of entirely positive growth. Some analysts continue to worry about an economic relapse following the election, with the 1980-81 period experiencing a "W"-shaped recession with a little bit of sideways waffling between the troughs of the W.

No one can predict the success of the new automobile models, and Chrysler has already resorted to selected rebates to stimulate sales of its 1981 cars. Credit markets continue to tighten, and the pattern of interest rates next year depends in large measure on the size and funding of the Federal deficit, as well as on Federal Reserve policy. Inflationary pressures will be influenced not only by the Fed's actions next year, but by overseas events such as the length of the Iran-Iraq war, the willingness of the Saudis to make up for oil output losses, further Soviet moves in western Asia, and other international events. Forecasting is always beset by such clouds.

INTEREST RATES AND CREDIT

The strength of the economy next year depends critically on interest rates. There are a variety of factors that will affect both long- and short-term rates in the months ahead. It is just a little more than a year since the Federal Reserve Board renounced its posture of setting interest rate targets and began to place more emphasis upon the rates of growth of the monetary aggregates. This has led to much more instability in the intertemporal pattern of interest rates. For example, in both 1978 and 1979 the prime loan rate changed 15 times. In contrast, the prime rate in 1980 changed 31 times by late November, from a high of 20 percent in April to a low of 11 percent in August. Since August, both long- and short-term interest rates have moved rather steadily upward.

These extreme fluctuations in interest rates have been unnerving to commercial bankers. Unprecedented swings in interest rates since the Federal Reserve went quasi-monetarist have made it increasingly difficult for bankers and borrowers to carry out financial transactions. The general consensus among bankers is that rates should peak before the end of the year and then ease off somewhat. We are less optimistic about interest rates. In our opinion the Federal Government will need to borrow about $25 billion in the capital market in the fourth quarter of this year to meet its obligations. If we have the slow but positive growth in the fourth quarter that we expect, there will be continued upward pressures on short-term rates. Since the level of long-term interest rates is closely related to anticipated inflation, higher expected prices for petroleum and agricultural products next year will keep inflation at about current levels, with continued upward pressure on long-term rates. We also think that the Fed will re-examine its posture with respect to the interest rate as a monetary indicator and make renewed efforts to stabilize interest rates, even if it is at the expense of diverging from its monetary growth targets.

Money supply growth for most of 1980 has exceeded target levels by a wide margin. In the four weeks ending November 5, 1980, the narrowly defined money supply, M1A (currency and checking accounts) grew at an annual rate of 10.2 percent. M1B, a broader measure of the money supply, (M1A plus interest-bearing checking accounts, electronic transfer accounts and credit union accounts) rose at a 12.8 percent clip. At its October meeting, the Federal Open Market Committee set target rates of growth of 2.5 percent and 4 percent for M1A and M1B, respectively, for the fourth quarter 1980. The money supply has been growing at three to four times its target rate.

The Committee also set a target for the range in which it would like to see the federal funds rate (the rate commercial banks charge one another for borrowed funds)–9 to 15 percent. The federal funds rate has already reached more than 17 percent in late November, with further increases expected. With inflation running at close to double-digit levels as of November 1980, this is "tight money" by any standard.

There has been a recent surge in loan demand by business, which has been attributed to seasonal and inventory factors, and it is not expected to continue. However, there will be further upward pressures on the prime rate, causing it to move beyond the 17.5 percent, of late November. With low rates of real growth expected for next year, we believe that the prime rate will fluctuate with a downward trend throughout 1981. The magnitude of fluctuation depends upon the extent to which the Federal Reserve decides to "peg" interest rates rather than money supply growth rates. The yield curve will be fairly flat throughout next year, with long-term rates running in the 14 to 15 percent range and showing fewer short-run fluctuations than short-term rates.

The Monetary Control Act of 1980 will change the entire structure of the U.S. economy, and massive changes in the institutional framework of financial intermediaries will commence next year. On January 1, 1981, both banks and savings and loan associations will be permitted to offer interest-bearing checking accounts. (NOW accounts have been available to date only in New England, New York and

New Jersey.) After the first of the year, commercial banks will have to pay for funds they used to get interest free, while S & Ls will be competing for these same funds. There may be a dog-eat-dog battle between these two sets of financial intermediaries, since S & Ls see the new accounts as an opportunity to divert funds from their commercial bank rivals. Both institutions could suffer profit losses in the initial stages of the competition, with upward cost pressures upon lending by both sets of institutions.

There are a host of other problems that will be generated next year as an indirect result of the 1980 financial reform act. Under old banking rules, only member commercial banks of the Federal Reserve System were required to maintain reserves with the Fed against their deposit liabilities. The new laws stipulate reserve requirements to be held by all banks, savings and loan associations, and credit unions. What this new mix of financial intermediaries in the system will do to Federal Reserve policies and statistics is still unknown. Up to now, commercial banks selected the membership of the directors of the Federal Reserve Banks. These directors, in turn, selected the regional Reserve Bank presidents who are members of the Federal Open Market Committee (along with other members of the Fed Board). It is up in the air at the present time as to whether S & Ls and credit unions will be allowed to participate in the selection process. These new financial laws will also alter the correspondent banking relationships that have been traditional in the banking community.

In summary, the outlook for interest rates in 1981 is for high rates generally, but for less fluctuation in rates than we had this year. Short-term rates will exhibit greater variation than long-term rates. The prime rate will remain at about 17 to 18 percent through mid-1981 and then begin to decline gradually toward 14 percent by the end of 1981. Long-term high quality bond rates will also peak out about mid-1981 at 16 to 16.5 percent and then taper off to 15 percent or so. There will continue to be short-run erratic fluctuations in interest rates, particularly in short-term rates, as the Fed continues to maintain a partial monetarist stance.

REAL OUTPUT

The U.S. economy will experience a real growth rate next year ranging between 2.5 and 3 percent for the year, with the second half of 1981 looking better than the first half. Our outlook, although more optimistic than most, is for relatively slow real growth next year. Our major arguments for slow growth next year follow:

1. Interest rates will remain high next year. High interest rates will prove to be an impediment to growth in housing, autos, and consumer durables, all areas that are crucial to overall economic activity, as the 1974-75 and 1980 recessions proved. A double-dip recession, with one or more quarters of negative growth in 1981 is possible, but not likely.

2. Congress probably won't enact a tax cut until well into 1981, perhaps past midyear, even though the Reagan platform calls for almost immediate tax cuts. The Carter White House Budget Director, James McIntyre, has asked the Congressional Budget Committee to refrain from including tax cuts in the current planning for the fiscal 1981 budget (October 1, 1981 through September 30, 1982).

3. The Federal budget deficit should run to $25 billion in the fourth quarter of 1980, and we would expect the deficit for Fiscal 1981 to run in the neighborhood of $40 billion. This will force the Treasury to issue new securities—if they are sold to the private sector there will be some crowding out of private borrowing and interest rates will remain high. The impact of high interest rates on real activity is obvious. If the deficits are monetized (that is, financed by borrowing from the Federal Reserve), then the

end result will be more inflation, higher inflationary expectations and higher interest rates.

4. There is a worldwide slowdown in economic activity. Britain, Japan and Canada are already in recession, and France, Italy and West Germany give all indications that they will be in recession in 1981. The U.S. depends on exports much more than it did a decade ago, and the sagging economies of Japan and Western Europe will not only soften the demand for U.S. exports but also inhibit our ability to recover from the 1980 recession. In fact, many overseas observers of the U.S. economy feel that developments abroad will act to perpetuate the U.S. recession.

In summary, the rate of growth next year will be modest because the two major stimulants to growth, lower interest rates and lower rates of inflation, will not be in evidence. The overseas slump will tend to retard growth in the U.S. as well.

An optimistic footnote should be added. The rate of growth of real output may be understated, and the rate of inflation overstated by the official statistics. There is a growing body of evidence that unrecorded activity has been growing much faster than measured output. A couple of years ago, economists at NYU estimated that as much as 10 percent of the GNP was unrecorded. Professor Reige of the University of Wisconsin estimates that unrecorded GNP is now in the neighborhood of 27 percent, and that underground real growth is triple the official rate. Assuming that underground activity is priced lower than official activity, since no tax earnings are reported on it, the true rate of inflation may be lower than the official rate and the real output of the economy higher than that noted in the GNP accounts.

INFLATION

The U.S. currently has a basic inflation rate of around 8 percent, if energy and food are taken out of the index. We expect that this rate will prevail next year, and that the overall rate of inflation will decline from present levels to a trough in the third quarter of 1981 and then turn around and rise slightly as the economic recovery continues. There is still a glut of gasoline, which will continue well into 1981 even if the Iran-Iraq conflict drags on throughout 1980.

The outlook for winter heating fuels is a good deal brighter than it was a year ago. Heating oil inventories are ample, and supplies of natural gas are more than adequate. There will still be upward pressures on natural gas prices because of deregulation, but no undue price pressure will appear in the heating fuel sector. The rate of domestic petroleum price increase will decline next year, since by the third quarter of 1981 the controlled U.S. prices will have risen to match free world market prices. With the industrial world in a slump, world energy prices should not rise noticeably during 1981.

Food prices will rise more in 1981 than they did this year. The searing drought, which withered agricultural output from Canada to Mexico, had a severe impact on farm produce. Damage from the extremely hot weather of this past summer has cut feed grain production, particularly corn and sorghum. Livestock production will be down sharply, beef and pork supplies will be falling next year, and broiler production will be off as well. Price increases in the agricultural sector will be significantly higher than those we have seen this year. We believe food prices will rise by 15 to 18 percent next year.

The rate of inflation, as measured by the Consumer Price Index will be in double digits for all of 1981, while the implicit GNP deflator, with less upward bias than the CPI, will remain in single digit figures. (Readers of our earlier outlooks will remember that the Consumer Price Index is biased upwards because it is a base weighted index, and because it puts an unusually heavy weight on new house purchases.) Our estimates for the rate of inflation by quarter for 1980:4 and 1981 follow:

	Consumer Price Index	*Implicit GNP Deflator*
1980:4	10.9%	9.7%
1981:1	10.9%	9.5%
1981:2	10.8%	9.4%
1981:3	10.6%	9.2%
1981:4	10.9%	9.5%

EMPLOYMENT

The overall civilian unemployment rate has remained between 7.6 and 7.9 percent since May of this year. The peak in unemployment will probably run to about 7.9 percent of the labor force, and will come in November or December 1980. The picture does not look very bright for 1981. A rather straightforward application of Okun's Law (each extra 1 percent of real GNP growth means about one-third of a percentage point decrease in the unemployment rate) with our real growth forecast of 2.5 percent means that unemployment will remain at 7.5 percent next year. This, however, is a more optimistic forecast than most. The general consensus is for an unemployment rate of 8.0 to 8.2 percent next year.

The natural rate of unemployment has been estimated at about 5.2 percent by Greenspan and the present Council of Economic Advisors. We expect that this rate will increase slightly next year because the magnitude of structural unemployment is rising. The U.S. economy is entering a stage where simultaneous labor shortages and surpluses will be more widespread. There are shortages of machine tool workers, nurses, pipefitters and petroleum engineers, but nearly 350,000 jobs in areas related to automobiles have disappeared. These employment dislocations will be one of the major labor problems of the 1980s.

In the coming years the labor force will grow more slowly, and will also be aging over the rest of the decade. The U.S. labor force grew at about 2.3 percent in the 1970s, and this growth rate will decline to about 1.4 percent between 1985 and 1990. We are now in a transition stage, with labor force growth at less than 2 percent per year. This will cause future job dislocations, with some sectors of the economy suffering extreme shortages of skilled labor. Most labor economists agree that older and more mature workers are less flexible and less willing to relocate to new types of positions or to new geographic areas, adding to structural unemployment. On the other hand, such workers are more experienced and skilled, and this would contribute to higher productivity in the years ahead.

The current employment picture is a bit of a conundrum. Skilled jobs are going begging in some areas while the unemployment rate remains high. A critical shortage of secretaries exists on the East Coast, with more than 10,000 unfilled openings for secretaries and clerical workers in New York City alone. Only 700 qualified persons are available to satisfy the current demand for 2,000 petroleum engineers. Computer programmers are in extremely short supply.

Structural unemployment requires substantial manpower retraining efforts. Unfortunately, to date the attempts of both the government and private industry to operate manpower retraining programs have been spectacularly unsuccessful.

We expect the quarterly overall unemployment rate through the end of next year to be as follows:

	Unemployment Rate
1980:4	7.8%
1981:1	7.7%
1981:2	7.6%
1981:3	7.5%
1981:4	7.2%

INVENTORIES

The 1974-75 inventory recession taught business a great deal, and inventory control has become a must for success in the manufacturing and retail sectors. As most automobile dealers know, high interest rates cut deeply into profits and inflation raises the value of inventory, creating artificial profits that are then taxed. The inventory problem is not a serious impediment to the current recovery, since firms have refused to stock more than their most essential needs. The major manifestation of firms' actions has been a reduction in the choices of products available to customers. Inventory-sales ratios have been pared by the elimination of business lines that haven't received acceptable rates of return. With a rather widespread view that the current recovery will be far from robust, managers have attempted to streamline their inventory control and distribution patterns.

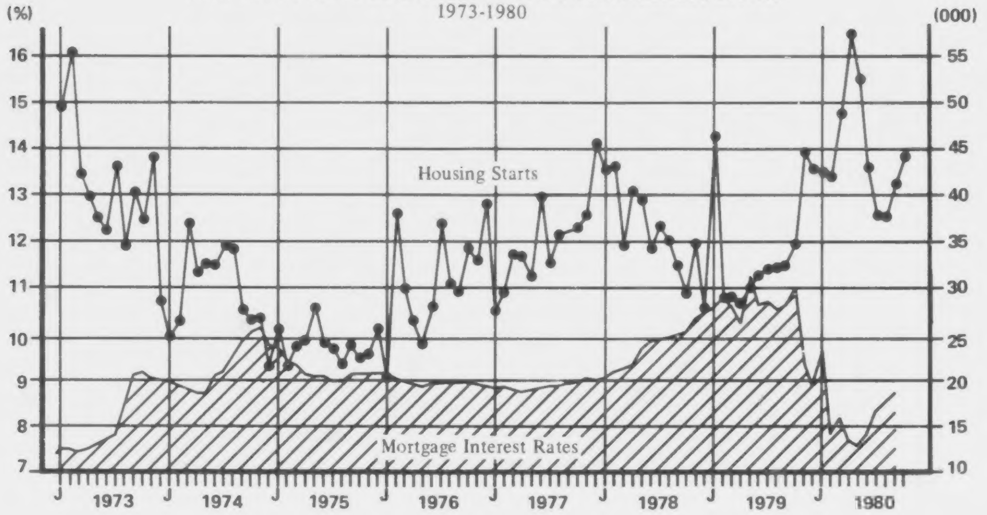
The inventory-sales ratio for U.S. manufacturing and trade has not reached alarming proportions, at least not anything resembling the inventory problems that existed in 1974 and 1975. We still have some reservations about the inventory-sales ratio since it represents current dollar values for sales and to some extent historical costs for inventories. An inventory overhang will not be a serious drag on the current economic recovery; however, if future sales fall off even a small amount, firms will continue to prune inventories. In addition to the traditional inventory jargon of LIFO and FIFO, a new term has cropped up–LIST (last in, still there!). We expect to see permanent reductions in inventory, which may reduce available choices to consumers. The inventory battle will tend to be waged between marketing managers (who would like to see the widest set of offerings possible to consumers) and those who have their eye on the bottom line and find extensive inventories unprofitable. The inventory-sales ratio is currently at a "normal" level, and we expect only a modest increase in inventories next year. The success of the Big Three automobile producers in selling domestic models will be the most important factor in the inventory picture in 1981.

HOUSING

The 1980 housing slump ended in May. At the latest trough, housing starts had fallen by more than 50 percent to about 900,000 units, the lowest level for U.S. residential housing in 30 years. Since May, housing starts have recovered steadily to an annual rate of 1.544 million starts in September. There were many reasons for the upturn in housing, but the major factor was the expanding supply of mortgage credit and declining mortgage rates. With the very sharp decline in interest rates that followed the early 1980 credit crunch, conventional mortgage loans declined from more than 16 percent in April to about 12 percent in late July and early August. Also playing a role in the 1980 upturn in housing starts was an extremely tight rental market (viewed at the national level) and relatively low inventories of unsold homes.

Since August, interest rates have again turned upward, with the usual adverse impact on housing. Some prospective house purchasers cannot meet the required income and downpayment requirements at higher interest rates, and many would-be buyers are turned off by 14+ percent money and "big" points (currently as high as 6.5 points). They are waiting in the wings until interest rates turn down again. Some forecasters are expecting a downturn in interest rates toward the end of this year, but we do not expect it to happen. For this reason, we are somewhat bearish on the residential housing market for 1981. With continuing inflation and high interest rates, the outlook for thrift deposits is not good. However, housing starts are quite low at the present time, and if the financial markets stay more or less at their current degrees of stringency, we expect hous-

Figure 1
INDIANA HOUSING STARTS AND MORTGAGE INTEREST RATES
1973-1980



ing starts to run to about 1.3 million units next year. Here is a quarter-by-quarter breakdown:

	Housing starts (millions)
1980:4	1.4
1981:1	1.1
1981:2	1.3
1981:3	1.3
1981:4	1.5

Next year won't be a great year for housing, but it will be slightly better than the expected 1.22 million starts for 1980.

The surge of housing activity as reflected in the more than 1.5 million-starts figures for September and October is only temporary. It may or may not reflect election year pressures on the Administration, but federally subsidized housing starts in September were almost double the levels they were in the same month a year ago. This may be due to builders attempting to get foundations in place before winter or to the fact that September is the last month of the government's fiscal year—the "If you do not spend it all this year, you might not get as much next year!" syndrome. This bulge is likely to be temporary. It reflects the fact that multifamily housing was up 18.7 percent over August 1980, while single-family starts were only up 5 percent.

Building permit activity, which is generally a fair leading indicator of actual construction, showed a 14.8 percent drop in October from September levels, 9.8 percent lower than permit activity a year earlier. Even these modest construction plans could evaporate if interest rates remain high.

Nonresidential building construction so far this year has held up much better than residential housing. Nonresidential building is just about where it was in October 1979, while housing is off about 15 percent from last year. There has been a big increase in non-building construction, but this was almost entirely due to four big electric utility projects reported this August (for a total of $2.5 billion) that came to more than all utility construction up to August. We expect that nonresidential construction will remain flat in real terms until the middle of 1981, when the full details of the prospective tax cut packages are known.

CONSUMER SPENDING

Earlier this year consumer spending rose faster than income, leading many economists to predict that the 1980 recession was clearly over and that next year would be one of reasonable growth. Personal income rose 0.7 percent in August and 0.9 percent in September of this year, and was matched, more or less, by accompanying increases in the personal consumption expenditure deflator component of the implicit GNP deflator. These increases followed six consecutive monthly declines in household disposable income, from February through July of this year. Since historically there is a steady relationship between income and consumption, the anemic changes in real income over the last few months do not point toward a robust increase in consumption spending.

Of course consumption spending is influenced by changes in the real wealth positions of households, as well as by real income. The post-election surge in the stock market, coupled with the increased equities most homeowners have in their houses, should partially offset the very small changes in real disposable income of most households.

There is not much prospect for consumption outlays to lead the economy out of the trough it is now in. There was a surge of consumption spending very early this year, which the Federal Reserve quashed with credit controls on March 14. These controls were halved in May and eliminated in July. Almost all of the consumption spending generated by the Fed's eased stance on consumer installment credit has been dissipated to date. With savings rates still at abnormally low levels, and consumption a high proportion of disposable income, we should not expect to get much impetus from lower saving and higher spending rates. However, increased credit availability will offset this partially.

Consumption expenditures are the single most important sector of the economy, with personal consumption amounting to about two-thirds of GNP. Some forecasters feel that consumption will hold up next year, but others doubt it and believe that consumption spending will be weaker in 1981. We are relatively optimistic and believe that consumption spend-

Figure 2
PERSONAL CONSUMPTION EXPENDITURES
(billions of 1972 dollars, seasonally adjusted)

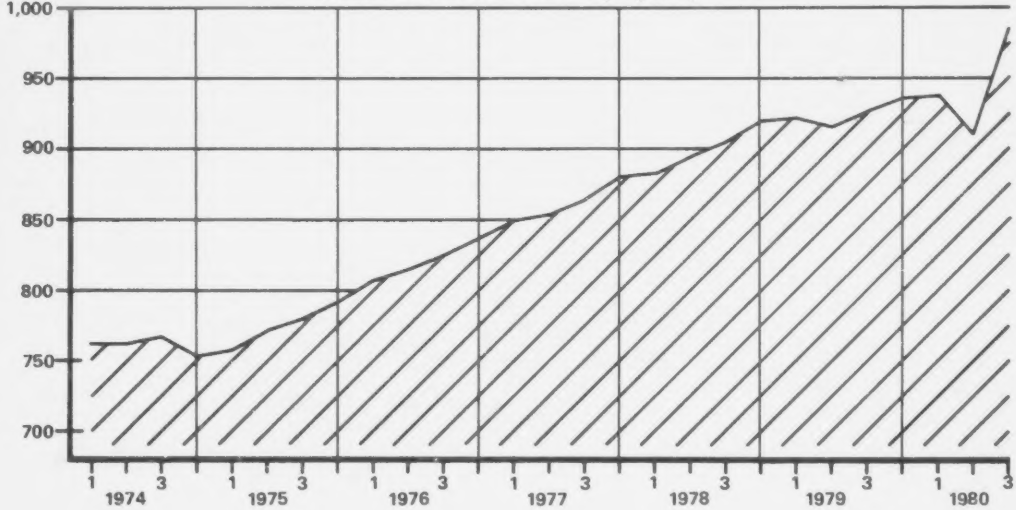
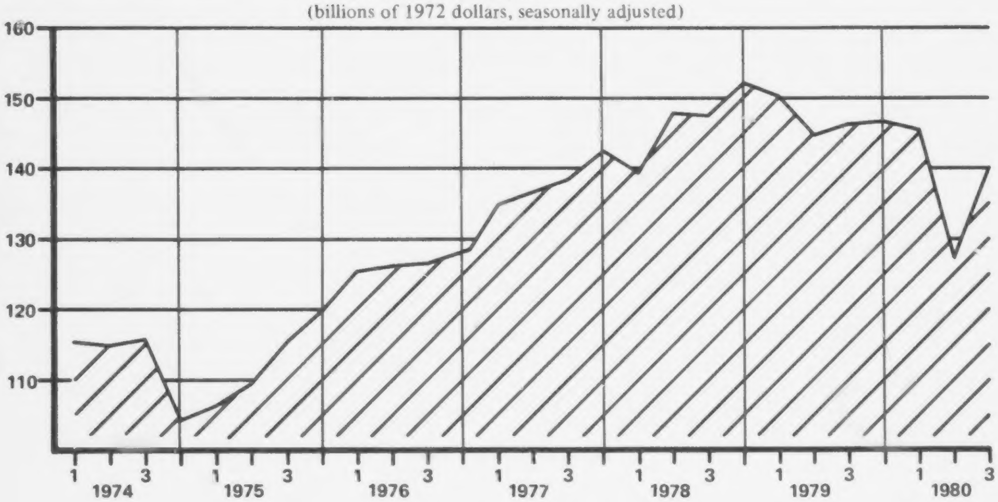


Figure 3
PURCHASES OF DURABLE GOODS
(billions of 1972 dollars, seasonally adjusted)



ing will be up about 3 percent in real terms next year because of increased consumer confidence based on improved employment prospects.

AUTOMOBILES

The outlook for autos next year rests largely on the success of the new small cars that the Big Three have just introduced. Ford Motor Company has its new front-wheel drive cars, Chrysler has its widely advertised K-car compacts, and GM is offering more of its front-wheel X-models and a sub-compact Cadillac. Detroit has finally learned that big cars cannot be sold with only rebates, and that the small car market is for real. Imports of fuel-efficient cars from Japan have soared over the last few years, with Japanese imports capturing about 20 percent of the market. This is well above the 15 percent total import threshold level that the industry previously believed was normal.

Not only does the domestic industry have to contend with imports, but each U.S. producer will have extensive competition from its domestic rivals. By Detroit's own estimates, new car sales for 1980, including imports, will be down 15 percent from 1979, at about 9 million units. Domestic producers have set conservative production schedules for the rest of the year that are about 9 percent below those for planned production a year earlier. The advertisements for the new small domestically produced cars may appear optimistic, but the auto makers are not really expecting any kind of recovery until next spring at the earliest. There should be a first half-1981 sales rate of about 9 million (stated at a seasonally adjusted annual rate) units, including imports, with a slight pickup in the second half of the year. Detroit is expecting total sales to run to 10 million units next year, but that is probably a bit high. We expect total sales, including imports, to run to 9.5 million units.

Imports have hurt the domestic automobile companies. The mid-November decision of the U.S. International Trade Commission to reject appeals by the United Auto Workers and the Ford Motor Company to restrict imports did not improve matters. In the opinion of the ITC, the problems of the domestic auto industry were caused mainly by the 1980 recession and by a shift in demand from big cars to smaller fuel-efficient models. It is possible, but not likely, that Congress may move to enact legislation that would reverse the ITC decision. The new Congress is likely to reject further legislation dealing with import restrictions. Nevertheless, there are still strong pressures for voluntary import restraint by the Japanese or further moves toward import controls by U.S. authorities.

Each of the Big Three automakers, particularly Chrysler, has its own special problems. It has been widely advertised that the future of Chrysler depends upon the success of the K-car. The company is planning to produce a maximum of half a million K-cars, and if it sells them all it will still lose money. To end up with a profit in 1981, Chrysler must sell at least 700,000 non-K-cars. Therefore, the K-cars must generate sufficient enthusiasm among consumers that they will attract buyers who will purchase LeBarons, New Yorkers, Imperials and Cordobas. This is a big if. However, Ford and GM will also have to sell quite a few big cars to enjoy reasonable profits next year.

During the last two years, one of the harbingers of spring has been the announcement, between innings of nationally televised baseball games, of rebates on new Chrysler automobiles. The spring of 1981 in this regard has been moved up to late November 1980, since at that time the Chrysler Corporation announced selective $250 rebates and $100 referral rewards on their new 1981 models. Chrysler's target is to attain 10 percent of the auto market. In addition to rebates, the company has announced various incentives and selected free options on some models. The success of this promotional campaign is yet to be seen.

Another minus on the automobile outlook relates to the prices of the new models. The average sticker price of the new models is in the neighborhood of $9,500, with new 1981 model prices up about $1,000 per car. This should make the remaining 1980 models quite attractive on the basis of price alone, and should slow down the activity in the 1981 models. The average price of the 1981 car is just about equal to the price of a new home in 1950, with new auto prices up over 30 percent in the last few years.

Detroit hopes to keep imports to 25 percent of total sales; about four-fifths of these imports will be from Japan. This means a pretty lean year for domestic producers next year, with sales in the neighborhood of 7.125 million units.

One final note should be considered. There appears to be a shift toward importing an increasingly large part of the components making up domestically produced cars. If this trend continues, the U.S. will move toward automobile assembly rather than automobile production. Given the real wages of U.S. vs. Japanese automobile production and assembly workers, this is a likely prospect.

BUSINESS FIXED INVESTMENT

Business spending on plant and equipment will be flat or negative in the first half of next year, as managers wait for details of the 1981 tax package to complete their spending plans. There will be some slight increases in the second half of 1981, but most of the impetus from the expected tax cuts will come in 1982 and beyond.

The level of industrial production is about where it was in early 1978. The overall pattern of industrial production has been sluggish, but there have been uneven levels of activity at a more disaggregate level. A big drop in orders in August in the somewhat volatile aircraft industry caused the level of total durable goods to decline. Without transportation equipment in the index, it would have risen by about 2 percent at a seasonally adjusted annual rate.

The current petroleum glut is reflected in the fact that oil refinery output is at less than 72 percent of capacity, with imports of crude at the lowest levels in the last five years.

Refineries were operating at 86.2 percent of capacity just a year ago. Even with the Iran-Iraq war showing signs of being prolonged, there will be little demand for adding capacity in the petroleum sector.

One of the most-used leading indicators of business fixed investment is the level of machine tool orders, and the latest news available is not good. August machine tool orders fell by 48 percent from levels of a year earlier and were 27 percent below those of July 1980. There is a usual seasonal slump in machine tool orders during the late summer months because of summer vacations, but there were some closings due to inventory cutting this year. Some machine tool producers continue to have backlogs of orders that run up to 18 months, while others see their markets exhibiting a considerable degree of softening. Overall, the machine-tool sector is giving very modest signs of growth next year.

Another leading indicator comes from the McGraw-Hill and Department of Commerce-SEC surveys of plant and equipment spending. However, these surveys are not available at this time. In summary, we believe that overall business fixed investment will be up 10 to 11 percent in nominal terms, but essentially flat in real terms next year. We expect a slight decline in real BFI spending in the first half of next year, offset by a slight increase in the second half.

NET EXPORTS

The U.S. balance of trade looks better now than at any time since 1977. This has been the net result of a combination of reduced import demand, due to the petroleum glut and the U.S. recession, and increased demand for U.S. exports by the rest of the world. It may seem paradoxical that our overseas trading partners are entering recessions of their own while their demand for our products increases, but it is not. Foreign trade patterns tend to lag both domestic economic activity and foreign exchange rates by a considerable time interval.

Our export position was particularly strong with our European trading partners. Exports have been 40 percent above their levels of a year ago, particularly for agricultural products (mainly feed grains), jet airplanes and machinery. However, Europe is headed for recession, and this will tend to put a crimp on export demand there. Our pattern of imports rests partly with Congress and with what action, if any, they take against Japanese auto and electronics producers. Only uncertainty can be claimed for the outcome of the Iran-Iraq war. On balance, we expect our trade position to improve slightly next year. Continued high interest rates and higher trade balance deficits should partially offset one another and keep the value of the dollar on world markets at about its present level.

SUMMARY

Our forecast for real output growth by sector, for inflation and for employment for the remainder of 1980 and for 1981 for the U.S. economy follows:

CONSTANT DOLLAR GROSS NATIONAL PRODUCT

(billions of 1972 dollars)

	1979	*1980**	**1981****
Gross National Product	1,431.6	1,424.5	**1,464.0**
Personal consumption expenditures	924.5	918.5	**946.0**
Gross private domestic investment	215.2	200.0	**202.0**
Business fixed investment	148.8	150.0	**150.0**
Residential construction	56.7	48.0	**50.0**
Change in business inventories	9.7	2.0	**2.0**
Exports	119.9	130.0	**134.0**
Imports	– 102.3	– 106.0	**– 103.0**
Net exports	9.7	24.0	**31.0**
Federal government purchases	99.4	108.0	**112.0**
State & local government purchases	174.9	174.0	**173.0**
Aggregate inflation rate (GNP deflator, annual rate, %)	8.8	9.3	9.4
Aggregate unemployment rate (%)	5.8	7.4	7.5
Growth of real GNP (annual rate, %)	–	– 0.5	+ 2.8

*Actual data for the first three quarters of the year and an estimate for the fourth quarter.
**Estimates for 1981.

The Indiana Economy

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The recovery of 1981 is eagerly anticipated by Indiana business leaders. The year that is ending has continued the downward movement of 1979 but signs of improvement are evident. A recovery at the national level in automobile production, construction, business investment, and housing all promise better months in the new year.

The recession of 1979-80 for Indiana was different from the national recession of 1980. When domestic auto sales declined in the spring of 1979 because of the sharp rise in the real price of gasoline, Indiana plants started a process of layoffs and cutbacks that continued for over a year. For weeks now the callbacks have exceeded the layoffs, unemployment claims have been declining, and the general view of the economy is one of steady, if unspectacular recovery.

From the first quarter of 1979 to the second of 1980 the nominal personal income of Indiana (without adjustment for price increases) grew by 6.6 percent. During the same period the nation averaged a 12.6 percent increase. Thus, for the period of the Indiana auto-related recession, Indiana ranked 49th in the nation in growth of personal income. Table 1 shows a tabulation for all 50 states. Neighboring Michigan had a growth rate half of Indiana's to earn last place in the nation. Illinois (35th), Kentucky (44th), and Ohio (46th) also trailed the nation. Leading the way during this period were energy producing states. Wyoming, Texas, Louisiana and Oklahoma all ranked in the top five states.

Indiana's share of personal income in the nation has been declining for several years. During nine of the past 14 quarters the Hoosier state has lost real income relative to the nation. (See Table 2.) From the first quarter of 1979 through the second quarter of 1980, real personal income in Indiana fell. In constant 1972 dollars, Indiana's personal income dropped by nearly $1.7 billion or 5.8 percent. All of the real gains made since the fourth quarter of 1977 were wiped out by the 1979-80 recession. With the state's population continuing to grow, these data suggest a marked decline in real per capita personal income.

The diffusion of the relative decline for

Table 1
PERCENT CHANGE
IN NOMINAL PERSONAL INCOME: 1979:1-1980:2

State	*% Change*	*Rank*
Wyoming	19.5	1
Texas	17.8	2
Louisiana	17.4	3
Arizona	16.9	4
Oklahoma	16.9	5
Nevada	16.6	6
Florida	16.4	7
Colorado	16.2	8
Washington	15.8	9
New Hampshire	15.7	10
Utah	15.3	11
New Mexico	15.2	12
California	15.0	13
Massachusetts	14.8	14
Virginia	14.7	15
Connecticut	14.3	16
South Carolina	13.6	17
New Jersey	13.5	18
Hawaii	13.3	19
Montana	13.3	20
Maine	13.2	21
Minnesota	13.2	22
Kansas	13.1	23
Vermont	13.0	24
Georgia	13.0	25
New York	12.9	26
Rhode Island	12.8	27
U.S.	12.6	–
Tennessee	12.3	28
Oregon	12.3	29
North Dakota	11.9	30
North Carolina	11.8	31
Pennsylvania	11.7	32
D.C.	11.7	–
Wisconsin	11.6	33
West Virginia	10.8	34
Illinois	10.7	35
Alabama	10.7	36
Delaware	10.5	37
Maryland	10.4	38
Mississippi	10.3	39
Nebraska	10.2	40
South Dakota	9.8	41
Missouri	9.6	42
Idaho	9.6	43
Kentucky	8.7	44
Alaska	8.1	45
Ohio	8.1	46
Iowa	7.8	47
Arkansas	7.8	48
Indiana	**6.6**	**49**
Michigan	3.2	50

Indiana can be seen in Table 3. From the opening of 1979 to mid-1980 nominal personal income generated by durable goods manufacturing in Indiana **fell** by 5.3 percent. During the same period, there was an **increase** of equal magnitude nationally. Among the major employment groups, only in agricultural services and government did Indiana's personal income growth outpace the national rate of increase. Because of Indiana's heavy unemployment, state unemployment insurance benefits climbed 274 percent, compared with only an 86 percent increase across the country.

Ahead of us in the coming year is a recovery dependent on the sales of domestically produced cars, accelerated business investment, and improved sales of houses and appliances. The national forecast of the preceding pages suggests that some improvements can be expected, but not a strong rebound. This cautious

Table 2
REAL PERSONAL INCOME
(Millions of 1972 Dollars)

Quarter	*United States*	*Indiana*	*Indiana as Percent of the U.S.*
1977:1	1,063,450	25,710	2.4176
2	1,075,148	26,335	2.4494
3	1,090,626	26,635	2.4422 ↓
4	1,111,267	27,080	2.4369 ↓
1978:1	1,116,951	27,067 ↓	2.4233 ↓
2	1,132,060	27,481	2.4275
3	1,150,059	27,714	2.4098 ↓
4	1,171,988	28,388	2.4222
1979:1	1,175,966	28,712	2.4416
2	1,177,471	28,449 ↓	2.4161 ↓
3	1,183,883	28,187 ↓	2.3809 ↓
4	1,191,606	28,038 ↓	2.3530 ↓
1980:1	1,187,722 ↓	27,859 ↓	2.3456 ↓
2	1,169,470 ↓	27,047 ↓	2.3128 ↓

SOURCE: U.S. Bureau of Economic Analysis.

NOTE: Conversion from nominal to real values by use of implicit price deflator for personal consumption expenditures.

Table 3

PERCENT CHANGE IN COMPONENTS
OF NOMINAL PERSONAL INCOME
1979:1–1980:2

	U.S.	*Ind.*	*Difference (Ind.–U.S.)*
Labor and proprietors income	10.6	2.3	– 8.3
Farm	–23.7	– 27.2	– 3.5
Ag. serv., for., fish, and other	12.9	13.7	+ 0.8
Mining	21.2	13.9	– 7.3
Construction	6.0	– 1.0	– 7.0
Manufacturing	6.8	– 3.9	– 10.7
Nondurable goods	9.5	1.9	– 7.6
Durable goods	5.3	– 5.3	– 10.6
Transportation and public utilities	12.8	6.2	– 6.6
Wholesale trade	14.4	3.9	– 10.5
Retail trade	8.5	3.9	– 4.6
Finance, insurance and real estate	16.4	9.5	– 6.9
Services	16.7	15.3	– 1.4
Government and government enterprises	9.2	11.7	+ 2.5
Federal, civilian	8.4	19.3	+ 10.9
Federal, military	7.4	1.6	– 5.8
State and local	9.7	10.3	+ 0.6
Dividends, interest, and rent	21.2	21.4	+ 0.2
Transfer payments	18.6	21.8	+ 3.2
State U.I. benefits	85.9	274.0	+188.1
Transfers excl. state U.I.	16.2	16.5	+ 0.3
TOTAL personal income	**12.6**	**6.6**	**– 6.0**

expectation is repeated in the following outlook statements for individual areas of the state. Just as the national recession has been realized in varying degrees among the states, within Indiana economic conditions vary widely. Muncie, Kokomo, Anderson and New Castle have been subject to the heaviest impacts of the recession. Other communities have not escaped the downturn, but are subject to less volatile economic fluctuations. The following pages offer a view of the performance and prospects for ten of Indiana's major employment centers.

INDIANAPOLIS

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To determine where the Indianapolis economy is going in 1981, let's see where it has been. Table 1 compares the 1979-80 recession to the 1973-75 recession. Although the unemployment rate was higher in 1980 than in 1973-75, the table shows that the employment drop was less. The 1980 recession in Indianapolis appears to have been more narrowly-based—concentrated in the autos and parts industry—than the 1973-75 recession.

Construction declined, too, but to a lesser degree than in the earlier recession. The current housing cycle peaked in the fourth quarter of 1977, a year in which permits for 9,000 units were issued. In 1979, about 7,500 permits were issued. In 1980 to date, Indianapolis is down 35 percent from last year, but has done much better than many other cities in the Midwest.

The other source of relative strength in construction is the industrial-commercial sector. The sources of this strength were discussed in the previous business outlook, and included the American United Life, One North Capitol, Indiana Theatre, Wasson's, and Indiana-Purdue University projects in the downtown area. A new project at IUPUI has recently been started—a $17 million physical education complex, including a $10.0 million, 5,400-seat natatorium, that was funded by Lilly Endowment and Krannert Charitable Trust gifts and will attract national and international competition when completed in 1982.

Retail trade employment contracted less in the 1980 recession, and reflected the use of Supplemental Unemployment Benefits (SUB) and substantial Trade Readjustment Act (TRA) payments to support the purchasing power of unemployed workers.

Thus, Table 1 supports the view that the cyclical instability was concentrated in the auto and residential construction industries—two sectors that are declining in size relative to total employment. The net growth in employment is occurring in the more stable sectors of the economy. However, the strength of the recovery will depend primarily on interest-rate sensitive expenditures for autos and residential housing.

Auto Recovery and Profitability

What about recovery in 1981? It will be slow and, perhaps, uneven. On the demand side, new

Table 1
INDIANAPOLIS METROPOLITAN AREA BUSINESS CYCLES
(Seasonally-adjusted Establishment Employment)

	Duration—months from peak to trough		*Amplitude—change from peak to trough in percentage pts. (Nov. 1973 = 100)*		*Percent distribution of employment in peak year*	
Selected industries	*1973–75*	*1979–80*	*1973–75*	*1979–80*	*1973*	*1979*
Total nonagr. employment	7	7	– 4.1	– 3.7	100.0	100.0
Manufacturing	17	13	–14.1	–12.1	28.5	24.7
Durable goods	17	13	–16.8	–16.1	20.2	17.6
Autos and parts	18	17	–34.2	–52.6	4.2	3.4
Nonmanufacturing	7	7	– 2.1	– 2.1	71.5	75.3
Construction	13	6	–29.0	–10.8	4.8	4.6
Retail trade	5	5	– 3.9	– 1.0	17.0	18.2
Fin. real est. insur.	1	1	– 1.0	– 1.3	6.7	7.0
Services	2	1	– 1.0	– 0.7	14.2	16.5

car prices are up significantly which means larger down payments and loans. Although interest rates may decline somewhat, they won't decline significantly due to continuing inflationary pressure reflecting high unit labor costs and higher food prices.

Although demand for automobiles is important, the supply side—the competitive position of plants in Indianapolis—is increasingly important for the local economy. The technical and economic efficiency and the product mix of local plants has become a critical factor in an age of "world cars." For example, the Chrysler foundry will play a primary role in the production of engine blocks for the K-cars. On the other hand, the Chevrolet plant is retooling for a 1982 smaller truck and, therefore, will not play a primary role in the employment recovery. Table 2 shows a measure of profitability for the auto parts industry in the North Central Region of the U.S. compared to other regions.

Congressional Tax Policy and Indianapolis

Alternative business tax cuts differ in terms of the investment stimulus per dollar of revenue loss. Investment incentives include accelerated depreciation, which favors capital-intensive industries with long-lived assets; investment tax credits, which favor short-lived assets; and corporate tax reduction, which is applied to profits from all investments—new and old. Since the focus of Congress will be on increasing the profitability of new investment, accelerated depreciation and the investment tax credit can provide a more powerful stimulus than rate reduction.

Proposed accelerated depreciation is expected to benefit the capital-intensive industries such as steel, and industrial tools and controls. There is some concern that the combination of new investment tax credits and accelerated depreciation schedules may induce companies to build new facilities instead of upgrading existing plants. Based on the profitability information in Table 2, some of these new facilities may be built outside the Midwest.

Certainly the Midwest is well represented in the machine and process tool industry. In Indianapolis, for example, Ransburg, which recently signed an agreement to develop and manufacture industrial robots, is strategically placed in a rapidly growing industry.

Although Indianapolis may not have mountains or ocean surfing, it does have excellent spatial position as a regional distribution center to serve an eight- to ten-state market. Accelerated depreciation for structures should promote demand for warehouse and light industrial space in industrial parks, such as Park 100, which announced recently a doubling of acreage.

High technology firms, such as data processing and electronics firms, may want to modify the proposed accelerated depreciation legislation to give attention to investment in research and development as well as physical assets. Although the data processing industry is concentrated in Boston, San Francisco, and Dallas, Indianapolis is represented in the top 100 data processing firms by Anacomp.

The relative stability in durable manufacturing employment—exclusive of the auto industry—was due in part to firms such as RCA. As gasoline prices increased, people apparently substituted home entertainment for "going

Table 2
PROFITABILITY–MOTOR VEHICLE PARTS AND ACCESSORIES (SIC 3714)*

Region	*Profitability Index (U.S. = 100)*
Northeast	87
North Central	93
East North Central	92
Ohio	101
Indiana	88
Michigan	88
South	146
West	124

*Measure of profitability = (value added-payroll)/value of shipments

DATA SOURCE: *1977 Census of Manufacturers* out." By the end of the first quarter, 1981, RCA will be introducing its new video disc player. Players are being manufactured in Bloomington and discs are being manufactured at the Rockville Road plant in Indianapolis. The video disc player represents a new dimension in the use of television in the home. Indianapolis is fortunate to have RCA's research and development staff and can look forward to a continuous flow of new products.

Deregulation and Indianapolis

In 1982, Western Electric's rate of return will no longer be regulated by FCC. Therefore, 1981 will be a planning year for this corporation, as it prepares to enter the nonregulated sector of the economy. Although Western Electric's plant was built in 1950, it has been modernized and is considered efficient by today's standards. However, like many Indianapolis plants that use assembly lines, Western Electric will be looking for ways to operate more efficiently. The usual strategy for gaining efficiency is to become more capital intensive.

The Monetary Control Act of 1980 will induce changes in the competitive relationships among financial institutions. During 1980 Indianapolis thrifts increased their net savings capital faster than their mortgage portfolios. This was done to increase liquidity in the face of high volatility in interest rates following the October 1979 Federal Reserve decision to give greater attention to monetary aggregates.

What about residential housing in 1981? As a rough approximation, if the average dwelling unit lasts 50 years, and the age distribution of the housing stock is about even, then 2 percent, or about 9,000 dwelling units should be replaced annually in the Indianapolis metropolitan area. An additional 800 units will be needed to house the net addition in population assuming 2.5 persons per dwelling.

Housing demand is determined by real income, vacancy rates, and the price and availability of mortgages. There has been a "doubling up" of families and young persons continuing to live at home during the recession. The residential housing sector will not show much sustained recovery until later in the spring when interest rates decline. However, this decline will not be large because of agricultural commodity-induced inflationary pressures.

Since the 1980 recession did not dampen inflationary pressures as much as previous recessions, these continuing pressures will slow the recovery in autos and housing. The result will be a weak to moderate recovery in the first half of 1981.

RICHMOND

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In October 1980, I conducted a survey of the business community in Wayne County by mailing a questionnaire to 400 businesspersons who owned or managed firms that were listed in the Industrial and Business Directory of the Richmond Area Chamber of Commerce. Of the 96 reporting firms, 92 percent were affected, in varying degrees, by the recession. Most of these firms are in the durable goods sector and have felt the effects of high interest rates, high energy prices, and sluggish demands for their products. The industries that were hit hardest were transportation equipment, electrical machinery, nonelectrical machinery, building trades, and retail automotive. This was reflected in the unemployment rate, which jumped to a record 14.3 percent in June. Since then the unemployment rate has declined.

Now that the national economy is coming out of the recession, manufacturing employment is likely to increase in the next few months while nonmanufacturing employment is expected to follow normal seasonal patterns. Of the firms surveyed, 53.0 percent of them plan to expand during 1981. Such expansions could alleviate the unemployment rate in the county. Most of the firms' managers also expressed optimism about business conditions in 1981.

The two commercial banks in Richmond showed a total of $274,949,000 in demand deposits and time savings deposits at the end of October, reflecting only a 1.0 percent increase compared with a year ago. This increase is below average and is due to high short-term investment rates and the net effects, through disintermediation, of noncommercial bank investment institutions. The three savings and loan associations, on the other hand, showed a total of $150,310,526 in deposits, reflecting an 8.0 percent increase for the same period. This increase is partly attributable to attractive yields on money market certificates. The growth in S & L deposits is likely to be affected with the introduction of NOW accounts effective January 1, 1981.

The reporting firms underscore the need

1. to attract new industries not tied to automobiles
2. to lower inventory taxes
3. to improve labor relations and infrastructural facilities
4. to expand from within the industrial framework
5. to eliminate the nonattainment status in order to accelerate economic growth in the county.

Overall, I expect low to modest growth in the local economy for 1981 because lower interest rates and lower rates of inflation will not prevail to give the needed "big push." Consequently, this will inhibit growth in building trades, transportation equipment, electrical machinery, and consumer durables. Much of what happens in 1981 will depend, of course, on the national economic recovery and the severity of the recession in Western Europe and Japan, our major trading partners.

FORT WAYNE

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Last year's forecast for Fort Wayne concluded that "There is no reason for optimism for the Fort Wayne-area economy in 1980." This pessimism was confirmed by the decline in wage and salaried employment in the SMSA (Adams, Allen, DeKalb and Wells Counties) from 182,700 in the first quarter to 175,400 in the third quarter, a loss of 7,300 jobs. (Several statistics indicate that the third quarter, 1980, is the trough of economic activity locally, unless the national economy experiences a W-shaped recession, which is not consistent with the IBR national forecast.) The summary forecast for the area economy is for modest growth in 1981; however, the forecasted growth is tempered by the fact that it represents only partial recovery from a severely depressed condition. At year-end, 1981, aggregate area economic activity still will be substantially below peak level activity experienced during the last expansion.

The forecast last year was for a decline in employment from 5,000-7,000,which compares favorably with the 7,300 actual decline noted above. However, local economic activity (measured by seasonally adjusted employment) peaked in the first quarter of 1979 in contrast with the national economy, which didn't peak until one year later. Accordingly, the area peak-to-trough drop in employment was

11,400. Certainly the six-month International Harvester strike, which began in November, 1978, exacerbated both the length and depth of the cyclical downturn. The specific forecast for 1981 is that by year-end, 1981, the local economy will have regained 3,000 to 5,000 of the 11,400 jobs lost.

Area retail sales in 1981 should show more strength than extrapolation of the employment forecast would indicate. The point is that area retail sales–using seasonally adjusted monthly department store sales as the available proxy for all retail sales–have not grown on a dollar basis since the beginning of the IH strike. Actually they have declined approximately 7 percent from the first quarter, 1979. When the effects of inflation are taken into account, the real decline in department store sales from first quarter, 1979, to third quarter, 1980, approaches 30 percent. Other types of retail activity have undoubtedly experienced lesser or greater declines to the extent that their products (services) are nondurable "necessities" (e.g., food) or durable "luxuries" (e.g., new automobiles). The trauma and resultant decline of new automobile dealerships in the area economy has been widely documented. In summary, the extended IH strike appears to have had a devastating effect on aggregate retail sales in the Fort Wayne economy; therefore 1981 retail sales will respond not only to the modest increase in overall economic activity but to the termination of the IH strike. This latter "snapback" should come before year-end, 1980. By year-end, 1981, area department store (dollar) sales are forecast to be 25-30 percent higher than third quarter, 1980, sales–a real gain of 15-20 percent. The forecasted growth is rather impressive, but remember that it is coming primarily from past losses.

The residential construction sector of the area economy has been severely depressed. The number of single family housing units started in Allen County in 1980 (now estimated to be 750) will be the lowest for the fourteen years for which data are available. The only other year in which fewer than 1,000 units were started was 1970 when 841 were started. A most optimistic forecast for 1981 would be to have 1,080 single family housing units started in Allen County. Although this forecast suggests a substantial percentage increase in housing starts, the total number of starts forecasted is comparable with starts in 1975, the trough year of the last recession.

Although the national economy may have experienced a relatively mild and brief recession, the Fort Wayne-area economy has been in a major recession, comparable with the 1973-1975 recession, since the first quarter of 1979. The third quarter of 1980 appears to be the nadir of the cyclical downturn locally. The summary forecast for 1981 is for a modest recouping of the losses in economic activity experienced in the last two years.

SOUTH BEND–ELKHART

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Although the recession of 1980 will be recorded as one of the shortest recessions in our nation's history, the South Bend and Elkhart economies have been burdened with recessionary forces since mid-1979. Depressed conditions in sectors important to our economic well-being–particularly the automotive and recreational vehicle industries–preceded the 1980 decline in national aggregates by a full year. Accordingly, these two area communities experienced declining economic activity and rising unemployment throughout most of 1979 and 1980.

Table 1

SELECTED INDICATORS FOR SOUTH BEND

(Seasonally adjusted: 1967 = 100)

Indicator	*Average 1979*	*Average Jan.-Aug. 1980*	*August 1979*	*August 1980*	*Percent Change Aug. 1979-Aug. 1980*
Industrial electricity sales[1]	125.5	121.1	120.1	107.3	–10.7
Natural gas sales[2]					
Commercial	144.0	135.7	136.5	109.6	–19.7
Industrial	98.5	86.4	92.0	78.4	–14.8
Employment data[3]					
Nonagricultural employment	122.8	119.5	122.0	116.7	– 4.3
Manufacturing employment	95.8	88.1	95.9	84.8	–11.6
Nonmanufacturing employment	139.6	139.1	138.3	136.8	– 1.1
Help wanted index[1]	129.4	77.4	121.7	62.8	– 48.4
Unemployment rate[3] (% of work force)	6.1	9.5	6.8	10.0	–
New passenger car sales[3]	119.9	91.9	90.5	98.1	8.4
New truck sales[3]	241.2	136.1	214.0	138.3	–35.4
Construction data[4]					
Estimated value of new housing permits	376.2	176.3	379.3	290.3	–23.5
Number of new housing permits issued	108.2	64.0	113.5	99.7	–12.2
Average value per new housing permit	287.2	315.7	291.5	310.4	6.5

[1] South Bend
[2] St. Joseph County
[3] South Bend SMSA
[4] St. Joseph County excluding the cities of South Bend and Mishawaka.

SOURCE: Bureau of Business and Economic Research, Indiana University at South Bend.

Tables 1 and 2 give various indicators of local economic activity for the South Bend and Elkhart communities. The figures contained in the tables are seasonally adjusted and, with the exception of the unemployment rates, are index numbers expressed as a percentage of 1967 base year values. In each table, comparative index numbers are averaged for the year 1979 and 1980 through August. Index numbers are also given for an August 1979 to August 1980 comparison.

South Bend. Twenty-three of the twenty-six comparisons shown in Table 1 suggest declining activity from one period to the next. The relatively large declines in manufacturing employment and industrial energy sources from August 1979 to August 1980 reflect the recession in local manufacturing. Large year-to-year declines in car and truck sales and in housing permits issued give some indication of the effects of the national recession in these industries. A combination of the two forces caused local unemployment to reach 11.4 percent in the second quarter of 1980.

Relative strength in nonmanufacturing employment provides one of the few rays of sunshine in the data. St. Joseph County (encompassing South Bend and its surrounding area) now ranks second in the state with respect to the percentage of income generated in the service sector and fifteenth with respect to income generated in wholesale and retail trade. Both sectors are less sensitive to changes in overall business conditions.

Elkhart. Similarly, all but one of the comparisons given in Table 2 reflect a pattern of declining economic activity for the Elkhart economy. The recession in that community has been particularly severe with unemployment peaking at 16.1 percent–the highest unemployment rate recorded since seasonally adjusted rates were first available in 1970. Depressed conditions in the community's manufacturing sector (particularly in recreational vehicles and other durable goods) have caused the manufacturing employment index to fall some 22 percent from the first quarter of 1970 to the third quarter of 1980.

As in the South Bend-area, these local conditions coupled with a national recession that crippled the automotive and housing industries have led to a particularly troublesome downturn locally.

Outlook. Given factors discussed in the national outlook that suggest a lean year for domestic auto producers and growing prospects for a "double dip" in the nation's business cycle, the industrial communities of South Bend and Elkhart are likely to emerge from the recession at least as slowly as the nation–with odds that it will take longer and that our unemployment rates will continue to significantly exceed the national rate. The character of the South Bend economy–now more diversified than in prior years–leads one to conclude that conditions there will be less severe than in the more industrialized Elkhart area; however, given the community's continued ties to the transportation equipment sector, relatively high unemployment rates are likely to prevail throughout 1981.

Table 2
SELECTED INDICATORS FOR THE ELKHART AREA
(Seasonally adjusted: 1967 = 100)

Indicator	*Average 1979*	*Average Jan.-Aug. 1980*	*August 1979*	*August 1980*	*Percent Change Aug. 1979-Aug. 1980*
Industrial electricity sales[1]	162.3	157.8	155.8	152.2	– 2.3
Natural gas sales[1]					
Commercial	168.8	157.7	153.0	107.9	–29.5
Industrial	262.6	247.0	232.1	232.7	.3
Employment data[2]					
Nonagricultural employment	150.7	139.5	145.4	133.7	– 8.0
Manufacturing employment	139.2	123.7	132.2	116.5	–11.9
Nonmanufacturing employment	270.5	263.0	267.0	256.0	– 4.1
Unemployment rate[2] (% of work force)	7.8	12.6	10.0	12.6	–
Construction data[3]					
Estimated value of new housing permits	246.8	101.9	297.3	95.6	–67.8
Number of new housing permits issued	118.0	48.5	128.7	54.6	–57.6
Average value per new housing permit	219.5	209.6	248.0	188.7	–23.9

[1] City of Elkhart
[2] Elkhart SMSA
[3] Elkhart County excluding cities of Elkhart and Goshen.
*All construction data has base year 1970 = 100.

SOURCE: Bureau of Business and Economic Research, Indiana University at South Bend.

MUNCIE–ANDERSON

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This outlook assumes a slow jagged recovery for the nation's economy in 1981, with real GNP, constrained by inflation and high interest rates, growing in the neighborhood of two percent. What then are the implications of the nation's stuttering anemic recovery for east central Indiana? Given the above assumption, a comparison of the impact of the 1973-75 recession on this area with that of the 1980 recession may provide a tentative answer to the question. Obviously, the volume and mix of 1981 motor vehicle sales is crucial to Anderson, New Castle and Muncie, in that order.

In the June 1980 issue of *IBR*, this analyst reported that as of early May employment in GM's giant Delco Remy and Guide divisions in Anderson was down nearly 30 percent–some 6,000 employees–and forecast additional layoffs would involve much smaller numbers. As forecast, unemployment peaked in those two complexes about midyear, giving Anderson the dubious distinction of having the highest unemployment rate, 22 percent, for any city of its size in the nation. However, some callbacks occurred in August, largely as a consequence of normal attrition. By the middle of October, some 2,300 hourly workers had been recalled in addition to salaried personnel. On the debit side of the ledger, a growing number of the unemployed, nearly 1,000 as of November, had exhausted their entitlements to SUB, TRA and unemployment benefits, adding further to the problems in the Anderson economy.

Auto sales for the nation peaked at a record rate of 13 million (seasonally adjusted annual rate) during March 1973, and then experienced a prolonged decline to almost the 7 million mark at the beginning of 1975. Similarly auto sales have turned downward since March of 1979; from 11.6 million during March to about 7 million during the second quarter of 1980. Thus, the auto sales decline led the nation's cyclical decline by two or three quarters in both instances.

So, too, did the employment decline in Indiana's durable goods manufacturing. Anderson, with 60 percent of its employed labor force producing durable goods, was of course, severely impacted. Indeed, Anderson's employment declined as much from June through December of 1979 as in the recessionary months of February to July 1980. Muncie's total employment is a great deal less automotive oriented, and total employment did not start a downward turn until October 1979, with measured unemployment peaking at 15 percent in July 1980. Of New Castle's 22,000 residents, 3,000 have long counted on Chrysler Corporation's forge and machine division for their livelihood. Some 750 of the more than 1,500 on indefinite layoff now find their SUB, TRA and unemployment compensation benefits expiring. Uncertainty is rampant as the financially hard pressed Chrysler Corporation, under pressure from the Chrysler Loan Board, is attempting to spin off some of its high-cost, less efficient facilities such as the New Castle complex. Unemployment in Henry County remains at about the 15 percent level.

Auto sales rebounded sharply in 1975, and so did employment in Anderson, New Castle and Muncie. Will 1981 witness a comparable rebound and concomitant growth in employment? Annualized domestic sales have crept upward from a 5.2 million unit rate in May to a 6.6 million unit rate in October, but even this modest gain represents a 7.9 percent decline from October 1979, marking the twentieth consecutive month that domestic sales failed to equal or surpass comparable "before" figures. These modest gains are particularly disappointing since they encompass the introduction of

1981 models. Given the current high and rising rates of interest, which impinge negatively on consumer auto purchases as well as on dealers' inventories, and given the spate of price increases announced by the Big Three, the IU forecast of sales approximating 7.25 million domestic units appears credible. Imports will probably continue to garner 25 percent of the total 9.50 million auto sales in 1981 unless Congress pressures the Reagan administration into imposing non-market measures. With this relatively dour outlook for auto sales, 1981 would appear to offer much slower improvement in employment than followed the 1975 first quarter trough.

Housing, another key ingredient in the nation's economic expansion following the trough of March 1975, was an important ingredient in the recovery of the Muncie and Anderson SMSA's that year. What is the housing outlook for 1981?

Total housing completion in the Muncie area, based on electric meter installations, peaked in 1978, Completions in 1979 registered but 67 percent of the 1978 total. For the first eight months of 1980 total completions were down 67 and 50 percent of the comparable 1978 and 1979 time-frames. Deed recordings during the third quarter of 1980 rose from the abysmal quarterly lows of the first half of 1980, as did August completions. A housing rebound is contingent on what happens to future interest rates: but given the rise in interest rates since August, and the economic forces at work in the Anderson, Muncie and New Castle areas, the rate of 1981 housing gains is likely to be below the modest gains expected for the nation.

Muncie's economy is more responsive to cyclical downturns than is Anderson's because it is far more diversified. Muncie has many more small- and intermediate-sized plants and is not dominated by a single industrial complex. Whereas Muncie's employment in manufacturing has declined both absolutely and relatively in the past decade, nonmanufacturing has grown significantly. Nonmanufacturing constituted 72 percent of Muncie's employment in 1979 as opposed to 55 percent of Anderson's employment. While the growth of services is spread relatively evenly among nonmanufacturing jobs, it strongly reflects the presence of 18,000 students at Ball State University. Indeed, a recent study by Dr. Joseph Brown, director of Ball State's Bureau of Business Research, estimated that the magnitude of the annual business-sector impact of Ball State University approaches $128 million. In 1963 employment at Warner Gear, then Muncie's largest employer, exceeded 5,000 workers. Today Warner Gear employs fewer than 2,000 workers and BSU is Muncie's largest employer.

EVANSVILLE

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Although the short but deep recession of 1980 made its effects felt in the Evansville area, the Evansville economy suffered a rather mild setback compared to many other regions in Indiana. The state as a whole experienced an unemployment rate of 11 percent and many regions with automobile industry registered 15 to 20 percent unemployment rates. The unemployment rate in the Evansville region rose to a peak in May of 8.4 percent, but then declined to 7.1 percent in September. During the 1970s the local unemployment rate was below the national rate, so May 1980 was the first time the local rate exceeded the national rate. The absence of auto-related industry, except for a window-glass plant, explains the mildness of this region's economic setback. However, the decline in consumer spending, the major cause of this recession, did affect the region, as 10 to 15 percent of area employment is associated with the production of consumer durables.

It was not until the second quarter of this year that the Evansville region began to experience the full impact of the 1980 recession. In the first quarter of 1980 most sectors in the region were operating in high gear with only a few signs of weakness in certain sectors. In terms of the Evansville Area Business Index, the composite index was above the 1979 average in the first quarter with a quarterly average of 108.40 or 8.4 percent above the base period of 1977 (see accompanying table). Industrial production and business construction were quite active while retail trade, finance and employment began to show some slipping from the fourth quarter of 1979. In the second quarter, the Index started to falter. June and July were the low points for economic activities with a level of 101, a 7 percent decline from the first quarter. The Index then moved upward in August and September at a one percent growth rate each month. The fourth quarter index is expected to stay below the first quarter level, but above the levels of the second and third quarters.

The composite index for 1980 will register at a level of 105.20, or 2.25 percent below the 1979 level. Thus, for the Evansville economy the 1980 recession was slightly less deep than the 1974-75 recession and much shorter. The setbacks in economic activities were more in retail trade, transportation, housing construction, finance and employment.

The end of a short recession is gratifying news, but recovery may not be pleasant. The coming year is expected to be one of slow growth, basically just enough to bring back overall economic activity to the 1979 level. In terms of the Index, 1981 growth will be a modest 2 to 2.5 percent, to about the same as the 1979 level, 107.70. One of the underlying assumptions is that the inflation rate will

EVANSVILLE AREA BUSINESS INDEX (1977 = 100, Revised)

	Industrial Production	*Trade & Services*	*Construction*	*Transportation*	*Finance*	*Employment*	*Composite Index*
Monthly (1980)							
Jan.	111.68	107.59	101.31	102.81	106.42	108.03	108.11
Feb.	113.46	105.43	107.94	103.26	107.08	105.79	108.36
Mar.	114.59	103.72	113.92	102.88	107.51	106.17	108.72
Apr.	102.40	103.15	115.24	100.40	104.32	104.53	104.02
May	103.97	102.57	113.79	98.72	102.70	104.28	104.03
June	96.35	102.90	112.28	95.51	100.95	103.46	101.07
July	98.20	102.86	109.34	95.63	100.45	103.86	101.46
Aug.	102.21	104.72	104.97	96.99	103.30	104.96	103.39
Sept.	107.70	105.28	105.26	96.29	103.73	104.08	105.36
Annual							
1979	106.30	107.28	114.41	104.85	109.05	108.59	107.66
1980*	106.57	104.79	110.00	98.86	104.54	105.01	105.24
1981†	108.20	105.90	120.00	100.34	107.00	106.50	107.73

*Estimated
†Projected

continue at 10 to 11 percent in Consumer Price Index or 9.5 percent in GNP price index. With a low saving rate and virtually no growth in real personal income, retail sales would increase by only one percent. The assumption is that the interest rate will remain high, possibly tapering off in the second half of 1981. A high interest rate means very modest growth in housing construction and related purchases of consumer durables. The unemployment rate may decline slowly to about six percent in 1981. The financial and employment indexes are expected to stay below 1979 levels. The strong sector will be business construction, including apartment construction, projects related to the Riverview Commerce Center, shopping center construction on the east side, and hospital expansion projects. The prosperity associated with the coal industry, especially synfuel production is still a few years away.

In short, the recession in 1980 has brought about a 2 to 2.25 percent decline in overall economic activity and the recovery in 1981 will be just to the 1979 level. Growth will be sluggish and depends on how well we cope with the problem of inflation and the resulting problems of high interest rates and weak consumer purchasing power.

GARY–HAMMOND EAST CHICAGO (Calumet Area)

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In our outlook a year ago, we predicted a shallow recession extending into 1981; not a brisk downturn followed by a rapid upswing as in 1973-75, when the Chicago metropolitan industrial activity index slipped almost 25 points. We are still on track. The current drop of the index from the 1979 peak is less than 7 points, from 112 to 105.4 (100 in 1972). The severity of the downturn was exaggerated locally because of its heavy concentration in steel and autos.

As Professor Donald L. Davis reported in a local manpower study, the average raw unemployment rate for the first eight months of this year was 11.4%, a rate nearly double what it was for the previous two years. The employment crunch began to hit the Calumet region in October 1979, as the raw unemployment rate jumped from 6.5 percent in September to 7.8 percent in October. This rate steadily climbed to 10.2 percent in January 1980, then fell off for two successive months to 9.2 percent. From March to July the raw unemployment rate steadily climbed to 14.1 percent; however, the September rate shows a decline to 12.9 percent with continued improvement expected in the last quarter of 1980.

Economic analysis indicates that the following series are the most reliable upswing predictors for Northwest Indiana: Money supply, (M1B); industrial activity in the Chicago metropolitan area; and the so-called echo-effect brought about by the replacement cycle in consumer durables including autos, nonresidential construction, defense, and producer durables.

Most predictor series appear to have ended their 12 to 18 months slide in April, thus foreshadowing a turning point in March or April of 1981. Other local indicators are less clear. Profits as a proportion of gross revenue began a decline from a peak in 1977. (The second differences of these series are reliable local predictors). Simultaneously since 1978, wages as a proportion of gross revenue began to rise. The rate of change is as steep as during the 1974 recession. Output per man hour is also declining, though at a much slower rate.

This scenario has always been associated with a local recession, and until a reversal or a narrowing of the trend lines occurs we dare not predict a buoyant recovery; a bumping along the bottom is more likely. In addition, the discretionary indicators (money, interest rates, taxes, etc.) are likely to be adverse in the beginning of 1981, if inflation accelerates beyond the present level. A rise in these indicators may delay, though in our estimation not abort, the eventual takeoff from an April turning point.

It took the steel industry a long time to recover from the 1974-75 recession. Annual average employment dipped from a peak of 67.5 thousand in 1974 to 61.1 thousand in 1975 and only slowly recovered to 66.6 thousand in 1979. Even though the current rate of decline in job openings has slowed, it is still 53 percent below a year ago.

A survey of 225 firms provided the information in Tables 1, 2, and 3. We note that output was still declining during the third quarter in all six markets surveyed. The forecast anticipates declines in only one of six markets. No significant differences were found in urban as opposed to nonurban locations. Table 3, which lists the proportion of firms either experiencing or anticipating rising output, indicates an improved prospect for recovery even though the signals are still somewhat mixed. In other words, while the recession was locally relatively mild, recovery is going to be slow. The forecasts in Tables 1 to 3 provide some inkling of the underlying trend that may be realized if the money supply is not drastically curbed.

Tables 1, 2, and 3

In the last three to five years, local industrial output has been understated inasmuch as environmental policies caused firms to produce large quantities of clean air and clean streams, a public consumer good, produced by the private sector. The value of these goods is the opportunity cost; namely the market price of the consumer goods which the fully-multiplied incremental investment in producer goods would have generated had environmental constraints not been imposed.

Table 1

	OUTPUT OR REAL SALES (Percentage)		PRICES (Percentage)	
	Third Q. 1980	*Forecast Nov. to Apr. 1981*	*Third Q. 1980*	*Forecast Nov. to Apr. 1981*
Manufacturing	–1.381	2.7985	8.9232	7.077
Commercial and residential construction	–3.9815	– .9981	10.3200	12.24
Transportation including autos and utilities	–1.6235	3.788	7.513	10.9410
Consumer durables	–2.738	2.3810	10.2858	4.2858
Consumer nondurables	–3.4375	4.327	1.7658	7.002
Food and kindred products	– .1881	3.118	6.5658	6.6792
Average for all sectors	– .9935	2.7989	7.4832	7.7094
Urban regions	– .7783	3.7415	7.0614	6.9324
Nonurban regions	–1.2500	2.0115	4.333	8.1666

Table 2
EMPLOYMENT FORECAST

	Significant Decrease	*Moderate Decrease*	*No Change*	*Moderate Increase*	*Significant Increase*
Manufacturing	*12.8*	*25.6*	*35.9*	*23.1*	*2.6*
	7.7	17.9	16.6	56.3	2.5
Commercial and residential construction	*25.0*	*37.5*	*25.0*	*12.5*	–
	4.2	20.8	12.1	62.9	–
Transportation, including autos	*23.5*	*23.6*	*35.3*	*11.8*	*5.9*
	0.1	5.9	47.1	46.9	0.0
Consumer durables	*28.6*	*14.3*	*52.4*	*4.8*	*0.0*
	0.0	33.3	47.6	19.1	0.0
Consumer nondurables	*29.2*	*12.5*	*58.3*	–	*0.0*
	4.2	8.3	54.2	33.3	0.0
Food and kindred products	*24.5*	*17.0*	*50.8*	*5.7*	*1.9*
	7.5	13.2	62.2	15.3	1.8
Total	*23.0*	*21.3*	*44.4*	*10.1*	*1.9*
	10.1	11.2	51.1	26.4	1.1

Values in italics are historical averages for the third quarter.

Because we have no adequate tax mechanism to compensate the private sector for the environmental public goods it produces, we must pay for these improvements via the inequitable tax of inflation. A slight reduction in the output of environmental goods is expected in 1981, which may account for a decrease in the inflation rate from about 11 percent to 9.8 percent and an increase in local industrial output of about 1.5 percent from about 4 percent to about 5.5 percent in 1981.

The following projections are made from an anticipated fourth quarter index of 106.2.

Table 3
DIFFUSION:
Proportion of firms experiencing
or anticipating gains in output
(one-half of firms recording no
change were counted as gaining)

	Third Q. (percentage)	*Forecast (percentage)*
Manufacturing	51.1	84.3
Construction	24.92	49.1
Transportation	34.4	37.1
Consumer durables	46.1	64.4
Consumer nondurables	35.1	76.9
Food and kindred products	49.1	79.9

PROJECTED NORTHWEST INDIANA INDEX OF INDUSTRIAL ACTIVITY (1972 = 100)

1981

1Q	2Q	3Q	4Q
107.198	108.993	111.166	108.731

1982

1Q	2Q	3Q	4Q
110.782	113.000	115.499	118.225

TERRE HAUTE

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The economy of the Terre Haute metropolitan area experienced a decline in 1980 that while gradual, and not continuous, was nonetheless serious. Any recovery in 1980 is apt to be slow, spotty, and at best incomplete.

The Terre Haute economy is rather well diversified, and, since it exhibits low dependence on cyclical manufacturing industries, it has tended to be relatively recession proof. If compared to a Kokomo or an Anderson, Terre Haute in 1980 continued in that pattern. The area unemployment rate peaked at 9.5 percent in June and recovered to a seasonally adjusted 8.4 percent by September, or, without seasonal adjustment, to 7.4 percent.

Some aspects of local employment data, though, are disquieting. The June to September reduction in unemployment came about principally through a reduction in the number of job seekers rather than through an increase in jobs. For the twelve months ending in September, Terre Haute's rate of decline in establishment employment was more than twice the state average. In the state the decline in employment in durable goods manufacturing virtually equaled total job attrition, but in Terre Haute an equally rapid rate of decline in that sector accounted for only 27.5 percent of total employment loss. Locally, employment contracted in government, in services, in finance, in retailing–virtually across the board.

We don't expect to see rapid recovery in area employment. CBS through its Columbia House and its record and tape division, is Terre Haute's largest employer. Record sales have been slumping for two years, and in November the local plant announced the largest in a series of layoffs. Record sales have not been notably cyclical, and explanations advanced for the recent slippage do not point to any quick recovery. A relatively transient factor could be a severe squeeze on the discretionary income of the record-buying public–principally teenagers. Their buying power is reduced because of a decline in the availability of part time jobs, combined with a rapid increase in the prices of gasoline and Big Macs. Beyond that though, the size of the market created by the U.S. teenage population is shrinking, and perhaps associated with that shrinkage, popular music no longer carries the significance that it had for the Woodstock generation. Even more ominous for the prospects of the industry is that sales of blank tape, and thus unlicensed recordings, are on the increase.

Construction activity, too, shapes up as a clear negative for 1981. This past year construction held up surprisingly well. As expected, ongoing construction at three very large industrial projects provided a strong base for activity, but contrary to expectations, residential construction also demonstrated some staying ability. For the first eight months of the year the number of construction permits for houses fell, but only to the level of 1978. Permits issued, when measured by residential units rose because of increased apartment construction. In 1981, nonresidential construction should slide; the Hercules expansion in Terre Haute is complete, and activity at Lilly in Clinton and at the REMC complex at Merom Bluff may well have peaked. Newly announced expansions at Anaconda, a Pfizer, and at the Mary Sherman Hospital in Sullivan, lack the scale to take up the slack. Residential building may evaporate; sales and rentals have not kept up with construction, and the cost for unoccupied space is high. Existing homes, especially in the middle and upper price ranges, also have not been selling. A March survey by the Federal Home Loan Bank placed the area apartment vacancy rate at a high 6.4 percent and the house vacancy rate at an extremely high 2.8 percent.

The area outlook for employment in government service is also guarded. With the State Treasury depleted, and with Federal sources of revenue drying up, the budgets of local governmental units, and of Indiana State University, will be severely strained.

Agriculture shapes up as a relative bright spot. Farmers have come through a trying season, in which they experienced a credit crunch at planting time, spring floods and inadequate moisture in early summer. But perfect harvest conditions, and rising prices, came to the rescue. Farmers who borrowed heavily, or who grow corn on sandy soil, did not fare well, but the gross value of local crops probably at least equaled that of 1979, and farmers' purchases of agricultural equipment and other big ticket items are perking up. With the prospect of small crop carry-overs, and with a favorable stage of the beef cycle, 1981 should be a good year for farmers.

One final observation: the community, and particularly the business community, is rather less pessimistic today than six months ago. The national economy, which had appeared to be in free fall, bottomed out much more rapidly than had been feared. And the election of a new President, with new policies–whatever those policies might be–at least presents a basis for hope.

The Terre Haute region, with strong support from agriculture, and with abundant supplies of coal, is well positioned to benefit from increasing world scarcity of food and fuel in the last two decades of the twentieth century. But the near term outlook, the outlook for 1981, is not exciting.

KOKOMO–MARION

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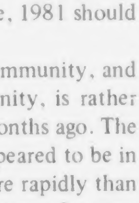

Throughout the first seven months of 1980, the economy of the mid-north region of Indiana (MNRI) was staggered by the one-two punches of the slump in the auto industry and a downturn in the national economy. The recovery has now begun, not with a bang but with a whimper. The recovery will be slow and painful.

This economic outlook report for Cass, Carroll, Clinton, Grant, Howard, Miami, and Tipton counties is divided into two sections. Section One is a review of economic events during the past nine months. Section Two is a discussion of the economic prospects for 1981.

SECTION ONE

Layoffs and Unemployment Rates

Slumps in the auto and the housing sectors resulted in massive layoffs and high unemployment rates. During the first nine months of 1979 an average of 12,954 people per month were unemployed in the MNRI. This number increased to 20,071 in the first eight months of 1980, a jump of 55 percent. In May 1980, 26,100 people, the highest number in recent years, were without jobs. The rise in the number of unemployed people was mainly due to massive layoffs at Kokomo's Delco Electronics, Chrysler, and Penn-Dixie Steel plants; Marion's Fisher Body, General Tire and Rubber Company, Dana Corporation, and Klain Steel Company; Logansport's Essex International, Switches, Inc., and General Tire and Rubber; Tipton's Perfect Circle Division of Dana Corporation, Steel Parts Corporation and FMC Corporation; and Peru's AGP, General Tire and Rubber Company, Norfolk and Western Railroad Co., and Chesapeake and Ohio Railroad Co. Many small firms that are dependent on the auto industry, like Kokomo's Accurate Parts and the Kingston Products Division, also laid off workers on a large scale.

Table 1
RANGE OF UNEMPLOYMENT RATES,
MNRI, 1980, 1981

County	*1980**		*1981***	
	Low	*High*	*Low*	*High*
Carroll	4.9%	7.8%	4.5%	7.5%
Cass	9.8	13.4	7.0	10.0
Clinton	7.2	12.3	7.0	10.0
Grant	11.3	17.9	10.0	12.0
Howard	13.9	22.9	11.0	14.0
Miami	10.4	14.8	8.5	11.5
Tipton	9.7	16.3	9.0	11.0

* First nine months
**Projected

Massive layoffs caused unemployment rates for the area to approach the magnitude of unemployment rates during the 1929-33 depression. In May 1980, Howard County, with a 22.9 percent unemployment rate, had the distinct honor of becoming the county with the highest unemployment rate in the nation. Jobless rates reached new five-year highs in mid-north counties. Table 1 shows the range of unemployment rates in the seven-county area in the first nine months of 1980.

Plant Closings or Operation Cutbacks

To add to the misery of economic downturn, several large firms in the area announced plans to close their plants permanently or to reduce the size of their operations. Such factors as lack of demand for products, high labor costs, antiquated machinery and plants, and plant relocations caused these closings. Table 2 lists plant closings announced in recent months and shows the number of jobs lost.

Chrysler Corporation disclosed its intention to trim its labor force in Kokomo. Chrysler's record-high employment of 6,800, reached in 1978, will not be repeated in the foreseeable future. Employment at Kokomo's plant will reach approximately 3,700 at the end of 1980 and will then gradually increase to 5,000 by the end of 1983.

At least 1,200 to 1,500 Chrysler workers have lost their jobs for good. These workers, mostly young, with less seniority and with families to support, must make the painful decision to look for jobs elsewhere. On the whole, the seven-county, mid-north region has lost at least 3,000 jobs for good. General Tire and Rubber Company and Chrysler Corporation account for 75 percent of the jobs lost.

Worker Recalls, Plant Expansions, and New Openings

With the introduction of new auto models and with gradual improvement in the economy, many auto manufacturers and the satellite firms in the MNRI started recalling their workers in July 1980. Before the end of 1980 a majority of the laid-off workers at Delco Electronics, Penn-Dixie Steel Corporation, Fisher Body, and Dana Corporation will be back on the jobs. Smaller firms, dependent on the orders from auto manufacturers, will increase their recalls in the months ahead. Nearly 50 percent of Chrysler's 1979 work force, however, will remain without jobs.

Despite overall gloomy economic circumstances, ground breaking ceremonies were celebrated in Kokomo for Delco's $14.5 million, 4,600-square foot automotive storage facility; Stellite Division's (Cabot Corporation)

Table 2
PLANT CLOSINGS IN THE MNRI

Plant and Location	*Number of Jobs Lost*
Dana Corporation (Perfect Circle Division) **Tipton**	150
AGP (plastic parts manufacturer) **Peru**	120
General Tire and Rubber Company **Marion, Peru Wabash, Logansport**	1,100
American Standard Incorporated **Kokomo**	175
Brada Miller Freight Systems, Inc. **Kokomo**	35
Libby (tomato processing operation) **Kokomo**	–

$58 million, 60,000-square foot rod mill; and Third Century Venture Corporation's $10 million ethanol plant. The expansion plans of Delco and Stellite were made possible through a 10-year tax abatement plan. Bearings Inc., made a 3,000-foot addition to its existing Kokomo branch. In May, Chrysler Corporation unveiled its newly-built $120 million transaxle plant, the fifth largest in the Chrysler network. The opening of a K-Mart store in Gas City, and Kroger's Super Store and Farmer's Market in Kokomo created 185 jobs.

In August, the Kokomo Planning Commission approved a site plan for a $5 million apartment complex in the Westbrook subdivision. Kokomo's mayor designated $723,000 for improvement and development of a 37-block area in downtown Kokomo. The Lafayette-based TV station, WLFI-Channel 18, announced its plans to build a TV studio in Kokomo. An Ohio-based development corporation disclosed plans to construct a $1 million 50-unit apartment complex in Marion.

Housing Market

The limited data available show that the housing market was hit hard in the Kokomo area. Table 3 summarizes the severity of the downturn in the housing sector. As the table points out, the number of conventional mortgage loans granted by Kokomo's five depository and thrift institutions in the first three quarters of 1980 was 64 percent below the number reached during the same period in 1979. The dollar amount also dropped considerably. The drop in the number of loans granted was considerably lower because of a dramatic increase in the number of homes sold on contract, high mortgage rates, and the overall drop in demand for homes because of layoffs and a pessimistic attitude toward economic security.

Table 3
DEMAND FOR RESIDENTIAL HOMES, MORTGAGE LOANS AND HOME IMPROVEMENT LOANS IN KOKOMO, JANUARY-SEPTEMBER 1979 and 1980.*

	1979	*1980*	*Percent Change*
Houses Sold			
Average number per month	125	70	–44
Average selling price	$40,658	$41,980	+3
Average number of days on market	80	102	+28
Ratio of sale price to list price	.96	.93	–
*Conventional Mortgage Loans***			
Loans granted	980	354	–64
Dollar amount (millions)	$31.7	$12.7	–60
*Home Improvement Loans***			
Loans granted	174	149	–14
Dollar amount (millions)	$1.6	$1.4	–13

*Housing data are compared for Jan. 20 - Sept. 19, 1979 and Jan. 24 - Sept. 22, 1980. Banking data are compared for Jan.-Sept. 1979 and 1980.

**Based upon data supplied by five depository and thrift institutions.

The average number of residential homes sold per month in the first nine months of 1980 was 44 percent below the 1979 figure. On the average, it took a longer time to sell a house. Also, on the average, the seller had to accept a price 7 percent below the listed price. The average price, $41,900, of a house sold in 1980 was only 3 percent above the average price of a house sold in 1979. The downturn in the housing market was caused by such factors as high mortgage rates, high prices, stringent qualification requirements for loans, massive layoffs, and uncertainty about economic security.

Although no comparable data are available for other cities of the mid-north region, similar housing market conditions prevailed in the rest of the region.

Retail Sales

Temporary layoffs, loss of jobs, high prices, uncertainty about economic security, and stringent controls on credit caused retail sales to decline in the first six months of 1980. Howard County retail merchants turned over $4.1 million in sales tax revenues to the state treasury in the first six months of 1980, down 15 percent from the dollar amounts turned over during the same period in 1979.

Other Major Developments

1. Corn and soybean crops were damaged due to the hot and dry weather in the months of June and July.
2. Moody's Investor Service lowered the ratings of Center School District bonds and municipal bonds in Kokomo. The ratings were lowered because of the poor economic condition in the area and the increased risk factor.
3. Most city and/or county officials were dismayed to learn the findings of the preliminary census data. It showed that in most cases the population in the 1970s had declined.
4. Kokomo was among the 20 cities in the nation that received a portion of $2.2 million economic hardship assistance from the Economic Development Agency of the Department of Commerce. Kokomo's share was $75,000.
5. At the same time that Marion launched the new slogan "Marion–Someplace Special," Logansport launched its ambitious "Logansport 2000 Program" to improve the economy and the quality of life.

SECTION TWO

What's in Store for 1981?

Undoubtedly, the key to the economic recovery of the mid-north region is the auto buyer's interest in the X, K, and other 1980 automobile models. If X + K = recovery for the auto industry, then it also holds true for the mid-north region. Even a moderate recovery in the auto industry could brighten the economic life in this region. Overall economic recovery at the national level could also add more strength to the region's economy.

Signs of economic recovery in the region are already showing up in various ways. Auto manufacturers and the related suppliers have already recalled a large percentage of their laid-off workers. In Kokomo, the number and the dollar amount of conventional home mortgage loans granted by banks increased in the third quarter of 1980, and the number of house sales rose in that quarter. Retail sales also increased in the third quarter. Dr. Naga Pulikonda of IUK conducted a quarterly business outlook survey in September in the Kokomo area. His survey shows that local manufacturers, home builders, and retailers are more optimistic than in July about sales, production, and new hirings in the fourth quarter of 1980 and in 1981.

Despite high interest rates, high prices, and competition from foreign auto manufacturers, the auto industry's performance in 1981 will be better than in 1980. It will, however, remain below its 1979 performance.

Unemployment rates will decline from their high levels for 1980. Such a decline will result from a reduced labor force and more recalls rather than from an increased number of new jobs. Carroll County will have the lowest unemployment rates, Howard County the highest. Cass, Miami, Tipton and Grant Counties' unemployment rates will remain moderately high. Unemployment rates in all the counties will remain relatively high in the first quarter of 1981 and gradually will decline in the later part of the year. Overall, unemployment rates will remain one or two percentage points above the 1979 averages. Table 1 shows projected high and low unemployment rates for the seven counties.

The housing market will remain sluggish because of high mortgage rates (11.5 to 14 percent), relatively high unemployment rates, and overall slow economic recovery. The number of homes listed for sale will increase considerably. The time required to sell a house will remain around 100 days. The average selling price of a house will not be more than 5 percent above the average price in 1980.

Overall retail sales will show improvement over the 1980 figures. Consumers will loosen their purse strings a little more because of worker recalls, less stringent credit controls, and cautious optimism about the immediate future.

In Kokomo, however, retail sales will barely inch above 1980 figures. All kinds of benefits to a majority of laid-off workers at Chrysler are coming to an end. Loss of income resulting from loss of job and/or loss of all benefits (SUB payments, TRA, or unemployment compensation) will reduce total consumer spending in the area. The loss of income for nearly 1,200 workers amounts to a reduction in average total spending of about $1 million per month.

SUMMARY

In 1981, the seven-county area of mid-north Indiana, struck hard by recession, will have a smaller number of people employed than before. This region's economic recovery will be slow, painful, and far from spectacular. Unemployment rates will decline not because of new jobs but because of a reduction in the labor force and more recalls. The housing market will remain sluggish and retail sales will be modest. Community leaders will step up their efforts to diversify the economic base.

JEFFERSONVILLE NEW ALBANY
(Louisville Area)

FAY E. GRECKEL
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Indiana University Southeast

The 1979-80 recession kept the Louisville-area economy subdued this year, but the impact was less severe than in much of the northern part of the state. While the economy is still feeling the effects of the recession, many economic indicators turned upward in August or September, and it appears that the October data will show this upward trend continuing in the local area.

Since there are no direct measures of total production published on a local basis, employment data provide the best available information about the nature of this recession. Employment in nonagricultural firms located in the five-county metropolitan area (Clark and Floyd Counties, Indiana; Jefferson, Oldham, and Bullitt Counties, Kentucky) reached a high of 410,000 in July 1979, and declined to a low of 386,000 in February 1980. However, since

Table 1
EMPLOYMENT IN THE LOUISVILLE-JEFFERSONVILLE-NEW ALBANY AREA, 1979-1980*

	Quarterly Averages 1979:2 (peak)	*Quarterly Averages* 1980:2 (trough)	*Change 1979:2-1980:2*	*Percent of total job loss*
Clark and Floyd Counties				
Total nonfarm employment	47,300	48,400	+ 1,100	–
Durable goods manufacturing	8,900	8,600	– 300	–
Wood products	(2,800)	(2,400)	– 400	–
Nondurables manufacturing	3,400	3,200	– 200	–
Nonmanufacturing	35,000	36,300	+ 1,300	–
Construction	(2,100)	(1,700)	– 400	–
Retail trade	(10,200)	(11,300)	+ 1,100	–
State and federal government	(4,400)	(4,800)	+ 400	–
Local government	(6,200)	(5,800)	– 400	–
Unemployment rate (seasonally adjusted)	6.2%	9.3%	–	–
Louisville Metropolitan Area				
Total nonfarm employment	407,400	393,600	–13,800	100.0%
Durable goods manufacturing	67,900	58,400	– 9,500	68.8%
Machinery & metal products	(43,100)	(39,900)	– 3,200	(23.2%)
Transportation equipment	(11,000)	(6,500)	– 4,500	(32.6%)
Nondurables manufacturing	43,200	41,900	– 1,300	9.4%
Nonmanufacturing	296,300	293,200	– 3,100	22.5%
Construction	(21,100)	(16,800)	– 4,300	–
Wholesale & retail trade	(90,500)	(87,700)	– 2,800	–
Services	(74,300)	(77,000)	+ 2,700	–
Government	(61,200)	(63,700)	+ 2,500	–
Unemployment rate (seasonally adjusted)	5.3%	7.9%	–	–

*The employment data refer to establishments located within the area cited and include workers on strike; the unemployment data refer to residents of the area cited.

†Includes Floyd and Clark counties in Indiana, and Jefferson, Oldham, and Bullitt counties in Kentucky.

SOURCES: Indiana Employment Security Division; Kentucky Department for Human Resources

employment is almost always high in July and low in February, seasonally adjusted data give a more accurate picture. On a seasonally-adjusted basis, the peak employment level was reached during the second quarter of 1979, and the trough occurred during the second quarter of 1980.

The 1979-80 recession was unusual in that its effects were so heavily concentrated in two sectors: industries connected with the production and sales of motor vehicles and those involved in the construction, equipping, and sales of homes. While the durable goods industries are likely to bear the major brunt of any recession, the current recession showed a much smaller dispersal of effects than previous ones. As Table 1 indicates, nearly 70 percent of the net job losses occurred in durable goods production, and four out of five of those unemployed in the durable goods sector had worked in either transportation equipment, machinery or metal products manufacturing. However, even industries that showed little or no reduction in actual employment were likely to have reduced the average number of hours worked per week.

Nondurables manufacturing showed only a slight decline, and most of those job losses were due to the closing of the Brown and Williamson tobacco plant, a move that was not related to the recession. Several nondurable goods industries shortened their average workweek, while others showed increases. In nonmanufacturing industries, sharp employment declines in construction and somewhat smaller losses in retail trade jobs were partially offset by gains in service and government employment.

Clark and Floyd Counties, the Indiana portion of the metropolitan area, displayed an interesting departure from the pattern just discussed. Because relatively few of the jobs available in these two counties are in auto-related or housing-related industries, employment showed a smaller-than-normal increase, rather than a decline. The loss of about 400 jobs each in the construction and the woodworking industries mirrored the situation elsewhere in the area, but more than equivalent gains were recorded in retail trade and other nonmanufacturing industries.

Clark and Floyd Counties were by no means insulated from the recession, since many Indiana residents work for the Kentucky manufacturers hardest hit by the economic downturn. As usual, the unemployment rate published for Indiana residents is higher than for the metropolitan area as a whole. This seems a little strange, given the more stable job situation within Clark and Floyd Counties. While this statistical contradiction cannot be explained away by the available data, it should be noted that the employment figures cited are based on more concrete data than the unemployment figures and thus are considerably more reliable.

A comparison of the current recession with that of 1974-75 shows the previous recession to have been somewhat deeper in terms of overall job losses, and more widespread. In the 1974-75 recession, the housing-related industries were more deeply affected than this year, but the transport industries had only brief layoff periods. Significant employment cutbacks occurred in nearly all sectors and in all five counties, although then, as now, employment in the service sector and in some other nonmanufacturing areas increased. One legacy of that recession has been the permanent loss of jobs in the durable goods sector as employers streamlined their procedures or substituted capital for labor. In early 1974, durable goods manufacturers employed over 76,000 workers; peak employment in 1979 was less than 70,000 workers.

The local business activity indexes provide another view of the current recession. (See Table 2.) The index of industrial production peaked at the beginning of 1979 and declined to a low of 97.3 this August, turning up again fairly strongly in September. The trade and services index, which reflects department store and automobile sales, as well as employment in trade and service jobs, remained more or less on a plateau throughout 1979, plummeted for the first five months of 1980, and then moved upward again.

The financial activity index grew slowly in 1979 to a 428.6 peak in March of this year. The Federal Reserve's credit tightening moves that month and the higher interest rates that followed were reflected in a sharp drop in this index, which bottomed out at 370.8 in July.

Largely because of the rising interest rates, construction was a little weaker in 1979 than it had been the previous year. Nevertheless a sharp decline did not occur until the beginning of 1980. The construction index dropped steadily from 161.5 last December to 100.3 this May, and since then has been rising nearly as steadily as it had fallen. Commercial and governmental projects kept the decline from being even more precipitous. In Jefferson County, the number of building permits issued for single-family homes was one-third lower for the first nine months of 1980 than for the corresponding period in 1979. The building permit decline was nearly 20 percent in Clark County and close to 40 percent in Floyd County. Interestingly, in both Jefferson and Clark Counties, where the home building drop-

Table 2
INDEX OF LOUISVILLE AREA BUSINESS ACTIVITY

	Quarterly Averages			
	1979:2	*1980:2*	*1980:3*	*Sept. 1980*
Industrial production	122.6	102.5	102.0	108.7
Transportation	191.9	180.1	182.3	188.3
Trade and services	149.8	136.8	137.5	140.5
Construction	143.5	103.4	123.6	128.4
Financial	365.3	382.8	378.7	388.0
Employment	137.5	130.8	130.3	131.1
Composite	163.6	151.2	151.9	157.0

1967 = 100 (seasonally adjusted)
SOURCE: Research Department, Louisville Area Chamber of Commerce

off was the greatest, permits for mobile homes tripled.

Looking ahead, it appears that the local economy is presently on a moderate recovery path. While some new layoffs are still occurring, callbacks outnumber new layoffs, and even auto sales have improved somewhat. However, the Federal Reserve's apparent commitment to a tighter rein on the money supply is likely to keep interest rates high for some months, and this in turn will slow the pace of recovery both locally and nationally. Any expansionary moves by the Reagan administration are unlikely to have a substantial impact on the economy until later in 1981, although there might be a more immediate psychological effect.

After the 1974-75 recession, it took two years for the employment level in this urban area to regain its peak 1974 level. Thus it is unlikely that our employment level will be back up to 410,000 jobs before the end of 1981, though it will doubtless be on an upward trend throughout the year. The unemployment rate for area residents should be declining fairly steadily from its seasonally adjusted 8.4 percent this September to 7 percent or less by late 1981. High interest rates are likely to dampen construction, home sales and business borrowing for the first several months of 1981. Barring unforeseen national developments, however, the recovery should be a little stronger during the second half of 1981.

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An Introduction to the Econometric Model of Indiana

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The Indiana University School of Business has developed a quarterly econometric model for the Indiana economy. The model, referred to as EMI, will be used regularly to make short-term forecasts of business and economic conditions in Indiana.

What Is An Econometric Model?

An econometric model is an explanation of how something works–in this case, Indiana's economy. It is a simplified explanation in that it abstracts from the complex real world by concentrating on a relatively few key elements in the economy. Economic theory provides guidance in the selection of the key variables and in spelling out their relationships. The relationships among the key elements or variables are quantified by being expressed in the form of equations. The equations are determined (technically, their parameters are estimated) from the historical relationships that have existed over the last twenty-five or thirty years. This determination involves the use of standard statistical techniques. The process of developing an econometric model involves combining economic theory, mathematics, and statistics. Use of such a model requires the addition of experience and professional judgment.

The Econometric Model of Indiana, like all models, takes some variables as given; that is, those variables are determined outside the model. In this case, the major variables not explained by the model are the forecast values of business activity for the nation. Forecasts of several national measures of business conditions "drive" the Indiana model; currently these national forecasts are from the Wharton Econometric Forecasting Associates (WEFA). The national forecasts are entered into the Indiana model, which then determines their impact on the Indiana economy based upon the historical relationships between the economies of the state and the nation as well as the workings of the Indiana economy itself.

The Focus Of The EMI

The Indiana quarterly econometric model focuses on the labor market and on personal income. Explanatory equations for employment, hours worked per week, and average hourly earnings were developed for each of twenty-seven industrial sectors. These equations show the relationships that have existed over the last twenty to thirty years. The source for these data on employment, hours, and earnings is the Indiana Employment Security Division. The model also contains explanatory equations for the components of personal income. The basic data are from the U.S. Department of Commerce. All the equations together constitute the model; many equations are interdependent.

After the model is put into the computer, various experiments are conducted to test the model's performance. Considerable "tuning" is usually necessary to get such models to perform well. Because it is a "living" tool, an econometric model must be continuously monitored and adjusted as changes occur over time in our economy.

The Indiana model forecasts quarterly estimates of employment and personal income by component. The employment forecasts are made separately for twenty-seven industrial sectors. Table 1 lists those industrial sectors and the components of personal income. Our major interest is in forecasting for four quarters or one year even though the model could be used to forecast farther into the future.

The previous forecasts of Indiana business activity by the outlook panel were more general and involved more personal judgments. National developments were assumed to have certain impacts on the state, but those impacts were generally estimated for only a few sectors and

Table 1
INDIANA ECONOMETRIC MODEL

Industrial Sectors

Manufacturing

Electrical machinery
Nonelectrical machinery
Steel mills
Autos and parts
Fabricated metals
Food products
Primary metal other than steel
Transportation equipment (other than autos)
Rubber and plastics
Chemicals
Furniture and fixtures
Apparel and textiles
Printing and publishing
Miscellaneous manufacturing

Nonmanufacturing

Wholesale trade
Retail trade
Service and miscellaneous
State and local government
Federal government
Finance, Insurance, Real Estate
Contract construction
Transportation
Communications
Utilities
Mining
All other nonagriculture
Agriculture

Personal Income Components

Wages and salaries
Property income
Farm proprietor's income
Nonfarm proprietor's income
Transfer payments
Other labor income
FICA payments
Total personal income

for the aggregate of Indiana business activity. The econometric model can more precisely trace out the impact on the state of various developments at the national level. The impacts can be traced through all twenty-seven sectors in a systematic and consistent manner. The model can handle many more variables than one can in judgmental forecasts, and it can maintain the proper relationships among the sectors in the state and between the state and national variables. These relationships are specific in an econometric model whereas they may be somewhat vague in judgmental forecasting. An econometric model does not, however, eliminate the need for personal judgment. No method of forecasting, regardless of how "scientific" or computerized, can escape relying heavily upon personal judgment.

How Will The Model Be Used?

The Econometric Model of Indiana has numerous uses. The most obvious use of its forecasts is by business firms as they make decisions concerning the future. The forecasts should also be useful to many state and local government agencies as they make their decisions concerning the future. For instance, the State Budget Agency has a great interest in the future developments of the Indiana economy because of the implications for tax revenues.

Results Of The December 1980 Forecast

On December 19, 1980, a forecast was made with the EMI. As we were still in the fourth quarter of 1980, it was necessary that that quarter be the first forecasted period. As explained above, EMI uses Wharton's forecast of certain national variables as input. This input from Wharton was:

1) For the three quarters beginning with 1980:4 and ending in 1981:2 the average annual percent change of real GNP will be .49. Then the economy will pick up and grow at an average rate of 4.03% through 1982:3.
2) Inflation will remain high, around 10% throughout the forecast period, as measured by the GNP implicit price deflator.
3) U.S. unemployment will remain high, around 8%, throughout the forecast period.
4) Interest rates will begin a gradual decline in early 1981.

The results of the December 19, 1980, forecast are shown in Table 2. As can be seen from the table, in particular from real personal income, real wages and salaries, and the percent unemployment, a "turning point" was forecast to occur in the fourth quarter. In other words, the Indiana economy had been going downhill for several quarters prior to our forecast, and we forecast an upturn in the economy.

Judging The Model's Success

There are many criteria by which a model's success can be judged. One criterion for a model is that it can correctly forecast the "turning point." Although not all data for the fourth quarter 1980 are reported at this time, the preliminary indications are that the Indiana economy did turn up in the fourth quarter. From the employment data, which have been reported for the fourth quarter of 1980, it appears that although we did forecast the turning point and we did correctly forecast the direction of twenty-two of twenty-seven employment sectors, we did not forecast the full extent of the upturn.

We forecasted that total establishment employment would rise by 18,710–from 2,207,170 in 1980 third quarter to 2,225,880 in 1980 fourth quarter. In fact, establishment employment rose by 33,990, to 2,241,160, in the fourth quarter 1980. Thus we understated the magnitude of the employment gain, but we correctly indicated a change in the direction of the economy.

The Future Of The EMI

Work on the model began over three years ago. The limited resources that could be provided for the project by the School of Business necessitated a fairly slow pace in the work. The Indiana Department of Commerce provided added financial support in calendar year 1979 for which we are grateful.

Our plans for the future include expanding the model to include certain variables that we feel are significant but that are not currently included in it. One addition will be to estimate gross state product along with employment and personal income. We plan to develop similar models for each of the major metropolitan areas in the state. In fact, work has already begun on a model for the Indianapolis SMSA. We are experimenting with a satellite model for forecasting state tax revenues. Finally, we hope to construct an annual model to use for long-range forecasts that will be integrated with our existing population projections model. This effort will help in such areas as occupational education, economic development, and health facilities planning.

Although this is the first public release of a forecast from EMI, we anticipate that each June and December issue of *Indiana Business Review* will carry a forecast for two years into the future. Improvements in technique, data, and presentation lie ahead, but a great investment has been made toward a better understanding of the Indiana economy.

Population Projections Compared With Census Count

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The ultimate test of a population projection is how well it compares with an actual population count. What score does the Indiana University-State Board of Health population projection for 1980 receive when compared to 1980 Census figures? What improvements need to be made in the methods and assumptions of the underlying model before the next test?

Three 1980 population figures are available at the state level: (1) the 1980 figure certified to the President for reapportionment (5,490,179); (2) the preliminary total (5,454,154); (3) the "adjusted" total (5,435,000). The preliminary total is useful because preliminary figures are the only ones available below the state level. The "adjusted" total is informative. It is based on the assumption that one percent of the Hoosiers counted in the 1980 Census would not have been counted had this census been no more efficient than the 1970 Census. Since the 1978 projection series necessarily used the 1970 Census as a benchmark, the "adjusted" total is the most revealing of overall weaknesses in the model. Methodological differences between the 1970 and the 1980 Censuses contribute to the model's failure to predict the other figures accurately.

Table 1 compares the three 1980 Census figures and the 1978 series IU-SBH projections for Indiana. The Census figures show gains between 241,000 and 296,000 for the state during the decade, while the projections show only a 234,000 increase. Expressed as percent-

Table 1
1980 INDIANA CENSUS FIGURES COMPARED WITH IU-SBH PROJECTIONS

Source	*Population 1980*	*Change 70 – 80*	*Percent Change*	*Difference Proj. – Census*	*Percent difference*	*Percent error – predicted change*
Census (certified)	5,490,179	296,479	5.71	–62,879	–1.15	–21.21
Census (preliminary)	5,454,154	260,454	5.01	–26,854	–0.49	–10.31
Census (adjusted)	5,435,000	241,300	4.65	– 7,700	–0.14	– 3.30
IU-SBH projection	5,427,300	233,600	4.50			

ages, the census shows a 4.65 to 5.71% increase, while the projections predict an increase of 4.5%.

In each case, the projections are low, ranging from 7,700 to 63,000 below the 1980 figures. However, the projections are closest to the adjusted total, indicating that much of the under-projection resulted from undercounting in the 1970 Census. Percentage differences range from 0.14 to 1.15%.

While the projections fall 21% short of the measured population change shown by the certified figures, they fall only 3% short of the population change shown by the adjusted total. This indicates that over 80% of the error in predicting change derives from the 1970 undercount rather than from failure of the model.

In general how well did the model predict the pattern of results? Table 2 compares the predicted growth relative to the state with the measured growth of counties relative to the state, thus separating the statewide underprediction of population from individual county predictions. Essential agreement between the projected pattern and the observed pattern occurred in 67 of 92 counties (73%). Only two counties, Pulaski and Sullivan, had growth relative to the state widely discrepant from the predicted growth. Both counties had been projected to decline, but actually grew faster than the state.

Table 2 also indicates that growth is more widely dispersed throughout the state than the IU-SBH model predicted. The Census shows 57 counties (62%) growing faster than the state average; the IU-SBH model predicted only 53 counties (58%) growing faster than the state.

Table 2
GENERAL PATTERN OF MEASURED GROWTH, 1970-1980
vs. PREDICTED GROWTH 1970-1980
RELATIVE TO STATE FOR INDIANA COUNTIES

		Predicted Growth			
		Faster than State	*Slower than State*	*Negative*	*Row Total*
Measured Growth	*Faster than State*	**49** 86.0 92.5 53.3	**6** 10.5 31.6 6.5	**2** 3.5 10.0 2.2	**57** 62.0
	Slower than State	**4** 18.2 7.5 4.3	**9** 40.9 47.4 9.8	**9** 40.9 45.0 9.8	**22** 23.9
	Negative	**0** 0 0 0	**4** 30.8 21.1 4.3	**9** 69.2 45.0 9.8	**13** 14.1
	Column Total	**53** 57.6	**19** 20.7	**20** 21.7	**92** 100.0

Key

County
Row Percent
Column Percent
Total Percent

Table 3 shows a detailed comparison between 1980 IU-SBH projections and 1980 preliminary census figures. Although final county totals will be 36,000 higher than the preliminary figures, specifically where these increases belong is still unknown. Table 3 indicates that the projections almost exactly predicted the population of the Northern Indiana Health Service area, overprojected the population of the Central Indiana Health Service area by 18,000, and fell almost 45,000 short in the projections for the Southern Indiana Health Service area. Analysis of variance indicated that there was, in fact, a significant geographic pattern in the accuracy and bias of the IU-SBH model.

Since it seemed likely that this geographic pattern was an artifact of the distribution of urban and rural populations within the state, the error between the model and the census figures was analyzed relative to the population of the county. A high correlation (.78) was found between the size of the county and the size and direction of the error. Specifically, when the county population was large, the IU-SBH model tended to overstate the population. When the county population was small, the IU-SBH model tended to underproject the population.

In northern Indiana, the general underprojection of population for rural counties was balanced by an overprojection of almost 23,000 in Lake County. In central Indiana, the same underprojection of rural population was overwhelmed by the overprojection of Marion County (almost 12,000) and the industrial counties in HSA Central areas 2 and 3 (over 10,000). Southern Indiana, which has a high proportion of rural/small town counties, was generally underprojected. Even the most populous county in southern Indiana, Vanderburgh, was underprojected.

The preliminary census figures show eleven Indiana counties with gains of over 10,000 in the past decade. The IU-SBH model overprojected seven of these counties and underprojected four. However, since the underprojections were all over 2,000 and the overprojections were relatively small, the net difference between the projections and the census for these counties was negative.

Thirteen counties lost population in the last decade. Two of these, Lake and Marion, each lost more than 10,000 people. Lake and Marion were also the only counties for which the projections were as much as 10,000 high. Four of the counties that showed population loss were projected to gain (Blackford, Henry, Jay, and Rush), but only Henry County was projected to gain over 1,000. The IU-SBH model overprojected on eleven of the thirteen counties that lost population; St. Joseph and Vanderburgh were the only exceptions. The 1978 series projected that twenty counties would lose population between 1970 and 1980, but eleven of these showed increases. Of the twenty, only Daviess and Sullivan actually gained by more than 1,000.

The projections were more than 5,000 under for only two counties. Porter, in the northwestern corner of the state, had the greatest numerical growth of any county in Indiana. Vanderburgh, in the southwestern corner of the state, had a slight loss but not nearly as much as the projected decline.

In general, the magnitude of the difference between projected and measured population was related to the magnitude of the change (correlation = .60). Specifically, the model tended to underproject large positive changes and overproject large negative changes.

One area of potential improvement in the IU-SBH is in the treatment of counties with large university populations, i.e., Monroe and Tippecanoe Counties. The 1978 series substantially underprojected the population of these counties (–7,359). Two possible explanations for the underprojection are: (1) there were large discrepancies between university and census figures on enrollment, so it was difficult to specify the relationship between enrollment and actual residency; and (2) the model may

Table 2
SUMMARY VARIABLES

Variable	*1980:2*	*1980:3*	*1980:4*	*1981:1*	*1981:2*	*1981:3*	*1981:4*	*1982:1*	*1982:2*	*1982:3*
Personal income*	48,306.00	49,041.00	51,281.97	52,402.65	53,741.99	55,450.42	57,175.26	59,077.31	60,874.01	62,979.01
Percent change	− .34	1.52	4.57	2.19	2.56	3.18	3.11	3.33	3.04	3.46
Real personal income*	27,047.03	26,857.61	27,497.03	27,392.92	27,377.48	27,532.48	27,701.19	27,972.21	28,169.37	28,356.15
Percent change	−2.91	− .70	2.38	−.38	−.06	.57	.61	.98	.70	.66
Wage & salary disbursements*	30,577.00	30,131.10	31,804.95	32,657.44	33,571.20	34,374.32	35,534.04	36,797.66	37,967.61	39,051.81
Percent change	−1.12	−1.46	5.56	2.68	2.80	2.39	3.37	3.56	3.18	2.86
Real wage & salary disbursements*	17,120.38	16,501.15	17,053.62	17,071.30	17,101.99	17,067.70	17,216.10	17,423.12	17,569.47	17,583.00
Percent change	−3.68	−3.46	3.35	.10	.18	−.20	.87	1.20	.84	.08
Nonmanufacturing employment #	1,541.37	1,541.63	1,546.90	1,508.93	1,557.15	1,574.13	1,579.29	1,547.57	1,597.71	1,614.04
Manufacturing employment #	680.77	665.50	678.97	670.51	678.20	681.82	677.54	672.97	685.05	693.42
Establishment employment #	2,222.13	2,207.17	2,225.88	2,179.44	2,235.35	2,255.94	2,256.83	2,220.54	2,282.76	2,307.46
Total number employed #	2,457.70	2,444.35	2,449.49	2,394.44	2,469.21	2,492.08	2,480.30	2,436.74	2,518.87	2,546.35
Percent unemployment nsa	10.18	10.13	9.04	10.39	10.06	9.37	8.86	9.80	9.29	8.46
Percent unemployment sa	10.54	10.73	9.52	9.12	10.42	9.90	9.33	8.60	9.63	8.94

1980:3 values are preliminary
* = millions of dollars
#= thousands of persons, not seasonally adjusted
nsa = not seasonally adjusted
sa = seasonally adjusted

Table 3

PRELIMINARY CENSUS FIGURES COMPARED WITH IU-SBH PROJECTIONS BY COUNTY AND STATE BOARD OF HEALTH SERVICE AREA

County SBH Area	*Population Census Figures*		*Projection IU-SBH*	*Difference Proj.-Cens.*		*Rank Of Difference*	
	1970	*1980*	*1980*	*Num.*	*Perc.*	*Num.*	*Perc.*
Jasper	20,429	26,068	26,200	132	.5	26	23
Lake	546,253	519,965	542,800	22,835	4.4	1	5
Newton	11,606	14,840	15,000	160	1.1	25	18
Porter	87,114	118,683	112,600	– 6,083	– 5.1	91	73
NNW	665,402	679,556	696,600	17,044	2.6		
Cass	40,456	40,824	39,100	– 1,724	– 4.2	79	63
Elkhart	126,529	136,686	137,100	414	.3	20	26
Fulton	16,984	19,208	17,500	– 1,708	– 8.9	77	89
LaPorte	105,342	107,229	107,500	271	.3	21	27
Marshall	34,986	39,655	39,000	– 655	– 1.6	46	43
Miami	39,246	39,770	39,100	– 670	– 1.7	47	44
Pulaski	12,534	13,200	12,400	– 800	– 6.1	52	79
St. Joseph	245,045	238,472	234,300	– 4,172	– 1.8	89	45
Starke	19,280	21,898	21,600	– 298	– 1.4	41	42
N Central	640,402	656,942	647,600	– 9,342	– 1.5		
Adams	26,871	29,465	28,500	– 965	– 3.3	60	58
Allen	280,455	292,358	293,300	942	.3	11	24
Dekalb	30,837	33,360	32,300	– 1,060	– 3.2	65	56
Huntington	34,970	35,437	35,700	263	.7	22	20
Koscuisko	48,127	58,978	55,800	– 3,178	– 5.4	87	75
LaGrange	20,890	25,402	24,900	– 502	– 2.0	44	46
Noble	31,382	35,360	34,000	– 1,360	– 3.8	73	61
Steuben	20,159	24,180	24,100	– 80	– .3	33	31
Wabash	35,553	36,556	36,200	– 356	– 1.0	42	38

County-SBH Area	*Population Census Figures 1970*	*1980*	*Projection IU-SBH 1980*	*Difference Proj.-Cens. Num.*	*Perc.*	*Rank of Difference Num.*	*Perc.*
Clinton	30,547	31,147	30,900	– 247	– .8	39	36
Fountain	18,257	18,978	18,200	– 778	– 4.1	51	62
Montgomery	33,930	35,359	34,500	– 859	– 2.4	54	51
Tippecanoe	109,378	120,525	117,500	– 3,025	– 2.5	85	52
Warren	8,705	8,874	8,000	– 874	– 9.9	55	90
White	20,995	23,737	22,700	– 1,037	– 4.4	64	65
Central 4	250,808	268,279	260,400	– 7,879	– 3.1		
HSA 2 (Central)	*2,082,346*	*2,145,903*	*2,163,500*	*17,597*	*0.8*		
Clay	23,933	24,850	24,700	– 150	– .6	35	35
Parke	14,600	16,281	15,900	– 381	– 2.3	43	48
Putnam	26,932	29,095	28,400	– 695	– 2.4	48	50
Sullivan	19,889	20,971	19,800	– 1,171	– 5.6	69	77
Vermillion	16,793	18,201	17,600	– 601	– 3.3	45	59
Vigo	114,528	111,656	111,700	44	.0	29	29
Southern 1	216,675	221,054	218,100	– 2,954	– 1.4		
Greene	26,894	30,304	28,800	– 1,504	– 5.0	74	71
Lawrence	38,038	42,520	41,600	– 920	– 2.2	58	47
Monroe	84,849	97,734	93,400	– 4,334	– 4.4	90	66
Owen	12,163	15,908	15,000	– 908	– 5.7	56	78
Southern 2	161,944	186,466	178,800	– 7,666	– 4.7		
Bartholomew	57,022	64,595	61,400	– 3,195	– 4.9	88	70
Brown	9,057	12,419	10,700	– 1,719	–13.8	78	92
Dearborn	29,430	34,212	33,400	– 812	– 2.4	53	49
Decatur	22,738	23,819	25,000	1,181	5.0	9	3
Jackson	33,187	35,587	34,600	– 987	– 2.8	62	54
Jefferson	27,006	30,228	27,800	– 2,428	– 8.0	83	86
Jennings	19,454	22,783	21,700	– 1,083	– 4.8	66	69
Ohio	4,289	5,059	5,000	– 59	– 1.2	31	41

have underestimated the indirect effects of a large university population on the number of permanent residents.

Summary

How well did the IU-SBH model perform in the prediction of 1980 population figures?

At the state level the model did extremely well indeed, with an error of less than 8,000, or one-seventh of one percent using adjusted figures.

At the county level the model did not perform with as much precision. For the average county, the IU-SBH model generated a population of about 98 people for every 100 people measured. More significantly, the IU-SBH model generated a change of only 100 people for every 109 people that were actually added or subtracted from a county. An analysis of these differences revealed some systematic effects, allowing future improvement of the model. The model appeared to overproject urban counties and underproject rural counties; therefore, it seems possible that performance could be refined by allowing some adjustment in the model depending on the urban/suburban/rural mix inside the county. Better procedures can probably be developed for dealing with large university or institutional populations.

Approximately 85% of the discrepancy between the projections and the actual figures can be attributed to changes in methodology in the census. Of the remaining 15%, a substantial portion is systematically related to improvable factors. The current IU-SBH model appears to be a fair and usable representation of the state. Future versions should prove to be even better models of the population of the state.

Financial Deregulation: More Than Just NOW Accounts

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Although most of the publicity is about NOW accounts, financial institutions are beginning to enter an era of continually evolving changes and adjustments in the competitive environment. Old ground rules and assumptions are being cast aside as a new set of rules, The Depository Institutions Deregulation and Monetary Control Act of 1980, takes hold. This article focuses on some aspects of the new law that will have effects on all financial institutions, including those in Indiana.

Three major provisions of the act provide for universal reserve requirements, interest rate deregulation and new financial powers for thrift institutions. These provisions are part of and a result of the constant evolution of financial services. High levels of both inflation and short-term interest rates have led to an acceleration in the attrition rate of membership in the Federal Reserve System for banks. Small savers have been penalized by interest rate ceilings on savings accounts just as borrowers have been shut off by arbitrary state usury laws. Thrift institutions have seen repeated disintermediation and an imbalance in the cost of funds relative to the return on long-term mortgage portfolios.

The goal of the Monetary Decontrol Act is the development of "fairer" competition, improved monetary control and removal of inequities among financial institutions. The three major provisions of the act attempt to address these areas and to respond to historical movements in financial markets.

1. Universal Reserve Requirements

The act requires, as a measure of competitive equality, uniform federal reserve requirements on similar classes of reservable liabilities (nonpersonal time deposits and transaction accounts) at all depository institutions, including commercial banks, savings and loans, mutual savings banks, and credit unions. Reserve requirements are the percentages of checking deposits and savings deposits a financial institution must keep as cash in the vault or at a Federal Reserve Bank.

The stated purpose of this provision is to enhance the Federal Reserve's ability to implement monetary policy by controlling monetary aggregates (measures of the total money supply) such as M1A, the sum of currency and private checking accounts. Since all depository institutions, Fed members and nonmembers alike, face the same federally imposed reserve requirements, the membership tax or discrimination against member banks is lessened. Previously this tax, the additional interest lost due to non-earning reserves, put member banks at a disadvantage; the tax burden went up as interest rates went up. Therefore, banks in increasing numbers, have withdrawn from the Federal Reserve System in recent years, and the proportion of the demand deposit component of the money supply held by member banks has fallen, thereby weakening the Fed's ability to conduct monetary policy. By imposing a uniform, universal reserve requirement, the act should promote increased competitive equality and enhance the control of monetary aggregates by the Fed. A mechanism for actual decreases in future reserve requirements is provided through the act, thereby giving banks more money to work with. With greater competition in the marketplace, some of the bank savings will likely be distributed to customers in the form of lower loan rates.

A single, truly uniform reserve requirement should ease the predictability of the impact of changes in reserves on the money supply and provide for the basis of improved monetary control. But immediate, drastic improvement is unlikely since the complexity of the reserve requirement structure will increase during the transitional period. Many other factors help determine the money supply. These factors include borrowed reserves, excess reserves, Federal Reserve float, and a lagged reserve accounting system. An often overlooked point is that monetary control will improve with uniform reserve requirements if total reserves is the operating target. It is not clear if monetary control will improve if the federal funds rate is the operating target. The real issue of monetary control is not contained in the uniform reserve requirements but rather in the choice of monetary aggregates or interest rates as targets and the actual rules of conduct for Fed policy.

In addition to the aggregate issue of monetary control, the introduction of mandatory reserves and open access to Fed services has a significant distributional impact among banks. Traditionally, the Fed has provided many services free of charge. Receipt of such services partly offset the cost to commercial banks of interest foregone on idle reserves. The gradual reduction of reserve requirements offers present member banks the opportunity to earn income on previously idle reserves. However, explicit pricing of services raises costs. Under the new law commercial banks will pay for using such Fed services as (1) check clearing and collection, (2) wire transfer of funds, (3) use of Federal Reserve automated clearing house facilities, (4) government security transfers, and (5) coin and currency transportation. Nonmember banks have incentives to move their check collection business and balances toward the Fed and away from their correspondent bank (a private banker's bank). The major incentives are 1) the newly required reserves at the Fed, which result in redundant balances at the correspondent, and 2) access to Fed services at prices that are generally lower than correspondent prices.

On balance the gains to large money center member banks that result through reduced reserve requirements outweigh the increased cost of Federal Reserve services and reductions in correspondent earnings.

Smaller member banks benefit significantly from reduced reserve requirements for transaction balances below $25,000.

All nonmember banks face earning reductions due to new reserve requirements as well as the pass-through costs of Fed pricing. However, large nonmember correspondent banks also face the loss of revenue from services as all banks make at least partial use of Fed services.

2. Interest Rate Deregulation

Depending on financial and economic conditions, deposit interest ceilings will be phased out over the period 1980-1986. In addition, state usury laws, which set the maximum interest rates on loans, are lifted for residential loans and mortgages. Individual states have until April 1, 1983 to restore interest rate limits. In addition, a new limitation on interest rates on business and agricultural loans over $25,000 replaces state limits with a rate equal to 5% in excess of the discount rate on commercial paper.

Previously, under what is known as Regulation Q, interest rate ceilings of 5¼% were imposed on savings and loans and mutual savings banks while commercial banks paid 5%. The one quarter percent differential was an attempt to protect thrift institutions and the mortgage market from commercial bank competition. Interest rate ceilings were introduced as a means of preventing excessive competition among financial institutions for customer deposits. Although this competition was blamed as part of the bank failure problem of the 1920s and 1930s, this explanation has not been empirically confirmed.

During the 1960s and 1970s, increasing inflation rates have sharply reduced the real rate of return for small savers. This decline has been a disincentive for saving generally and has fallen in an inequitable fashion on the small saver in particular. Despite the intent of cushioning the mortgage market, interest rate ceilings have actually hindered the ability of all depository institutions, but particularly thrifts, from effectively competing for funds and have not provided for an even flow of funds for home mortgage lending. The existence of the ceilings has provided an incentive to financial institutions to circumvent regulations. The money market funds have grown as a means for savers to circumvent both reserve requirements and Regulation Q ceilings. The search costs in avoiding regulations include lost production by financial institutions and further effort by regulators to plug loopholes piecemeal or to offer half solutions, for example, money market certificates. One step taken in the deregulation path was the provision allowing banks and thrifts to offer six-month money market certificates, which allowed savers to earn a market rate of return tied to the rate on Treasury bills.

Interest rate deregulation is, in large part, a response to the experience of the 1960s and 1970s when thrift institutions faced serious disintermediation. Disintermediation is the net withdrawal of funds by depositors from thrifts and the placement of those deposits directly into private financial markets. By gradually removing the adverse differential between market interest rates and Regulation Q rates offered by thrifts, the Monetary Decontrol Act is attempting to reduce disintermediation.

Historically, the chief obstacle to Regulation Q removal has been the concern that such removal would expose mortgage lending thrifts to disintermediation and commercial bank competition, thereby creating even greater amplitude in mortgage lending and housing cycles. But the thrifts have found most of the competition for funds from the open money markets and the development of unregulated instruments such as money market funds.

Regulation Q ceilings have exacerbated the disintermediation problem and have prevented commercial banks and thrifts from effectively competing for the needed deposits. The inability of thrifts to continue to attract a continuous steady flow of deposits during periods of high or rising interest rates has led to a decrease in the flow of mortgage credit, higher mortgage rates, and a more severe cycle in housing. In periods of tight money, short-term market interest rates rise quickly and the difference between flexible free market rates (e.g. Treasury bills or money market mutual funds) and fixed Regulation Q rates on S & L deposits widens, leading savers to move their deposits out of S & Ls. Tight monetary policy in 1966 especially, and again in early 1980, brought sharp increases on short-term open market yields and depositors withdrew funds from savings deposits for reinvestment in short-term securities such as U.S. Treasury bills. One difference between 1966 and 1980 was that all S & L deposits fell in 1966 but in 1980 one type of deposit, the money market certificate, actually grew. This development holds promise since the attempt to decontrol interest rates is a continuation of the decontrol for money market certificates. Money market certificate rates are competitive with the free market rates on Treasury bills and the certificates are the same size ($10,000) and have a similar maturity (6 months) as Treasury bills.

Decontrol of interest rates is expected to aid thrift institutions in securing a steadier supply of funds at free market prices than was true in the past. For the financial system there will be greater competition among all types of depository institutions and greater use made of market-determined interest rates in directing the flow of funds. In a broader context, high interest rates are only part of the thrift/housing problem. Macroeconomic policy must reduce the inflation in housing prices themselves. For thrifts, the introduction of more variable interest rates on liabilities such as deposits will also require greater flexibility in interest rates on assets (such as variable rate mortgages) and introduction of more flexibility on the entire asset side (such as consumer loans).

State usury laws set a single arbitrary nominal interest rate as a measure of legal interest ceiling. Set many years ago, these interest rates do not react to the supply and demand for credit, to inflation, nor to the cost or risk of lending small smounts to poor credit risks. Since such lending is unprofitable under the legal ceiling, lenders and borrowers resort to legal and illegal devices to circumvent the usury limit. In 1980, mortgage lending halted in several states while state legislatures tried to quickly amend the usury laws. The Monetary Decontrol Act attempts to put usury laws in relation to free market rates by basing the usury ceiling on the discount rate for commercial paper at Fed banks. This allows the rate to fluctuate with realities in the credit markets but offers a measure of protection for borrowers by preventing loans that are too far out of line.

3. New Financial Activities

The most visible element of the new financial activities is NOW accounts. In the broader view NOW accounts are only a small, and probably not the most important, element of the broad spectrum of asset/liability changes allowed under the Monetary Decontrol Act of 1980. The goals of this part of the act are 1) to improve financial services to consumers, and 2) to enable institutions to attract and retain funds in competition with money and capital markets.

For the consumer, the NOW accounts offer payment of interest on transaction balances at any depository institution. By offering the 5¼% return, thrifts will be able to attract some transaction balances and all depository institutions will be able to reduce the interest lost to consumers for checking accounts. Besides NOW accounts, thrifts may also offer trust and fiduciary services, provide consumer credit for autos and home improvements and personal uses, issue credit cards and operate bank machines. Thrifts are thereby allowed to be more like a family financial center, thus stronger competition for the full service bank. By improving the competitive equality among depository institutions, the general economic efficiency of the financial system should improve.

The asset/liability changes for thrift institutions will have very significant impacts on their viability and competitive effectiveness. Historically, the "thrift problem" has been the maturity imbalance between predominantly long-term assets (mainly fixed-rate mortgage loans) and short-term deposit and non-deposit liabilities. The goal of the act is to ease this maturity imbalance by allowing thrifts to get away from the heavy functional specialization in mortgage loans as assets and savings deposits as liabilities. The new lending and investment powers allow greater diversification.

On the asset side, new regulations allow thrifts to invest up to 20% of their assets in consumer loans, commercial paper and corporate debt. They may also make real estate acquisition, development and construction loans without the adverse geographical lending restrictions of the past. These new asset powers allow thrifts greater flexibility in the use of their funds. New lending possibilities can have shorter effective maturities that more closely match liabilities. Apartment and office building loans supplement single family mortgage lending. Diversification possibilities allow reduced risk-taking per dollar of return over both short- and long-term assets.

The operation of the traditional mortgage loan portfolio will also change. Basic mortgage instruments will be revised to make mortgage loan returns more responsive to money-market conditions. More flexible, cost responsive mortgage instruments such as variable rate mortgages and roll over mortgages would improve the flow of credit or mortgage liquidity and bolster thrift profitability in tight money periods. Increased selling of mortgages in the secondary market to generate funds allows thrifts to write mortgages without the fear of being locked into lower, fixed yield, long-term mortgage loans.

In the past, fixed interest rate mortgage loans with long maturities (20 or more years) had to provide stable returns that exceeded, over their effective lives, the costs of funding to support them. Until the mid-1960s, thrifts profited from the stable spread between mortgage loan inome and savings account expense. However, in 1966 and several times since, short-term interest rates have risen sharply above long-term rates. All rates in general, due to inflation, have ratcheted upward.

Through the interest rate deregulation provisions, discussed in Part 2, the Act has tried to allow greater flexibility on the liability side. To help stabilize the inflow of funds, deposits will have market-related returns. In addition, borrowing privileges will be extended at the FHLBB. The complete decontrol of liability returns for thrifts is more effective than the piecemeal half decontrol of money market certificates.

For thrifts the final outcome of the new financial activities is far from certain. It is expected that the percentage of total assets composed of single family mortgages will fall, but total thrift assets will grow, so that the total volume of mortgage lending will still increase. However, while thrifts have broader lending opportunities on the supply side, increases in population and income will increase the number of families competing for loan funds on the demand side. The net result, given inflation and monetary policy, will very likely be higher mortgage interest rates in the future. Greater stability in the flow of funds will be achieved over the business cycle. During periods of tight credit a better liquidity buffer will exist for thrifts due to the repayments on consumer installment loans and returns on short-term investments. These cash flows, as well as flexible mortgage instruments, should provide for greater stability in mortgage lending. This greater stability of mortgage lending and thereby greater viability of thrifts is a welcome financial development.

Summary

This article has only highlighted the nature of change under the Monetary Decontrol Act of 1980. The act is based on the philosophy of greater reliance on free market forces to determine the most appropriate uses of credit and, therefore, less reliance on regulatory decisions in determining the price and quantity of credit. The gradual decontrol of Regulation Q will allow institutions time to develop services and management skills necessary for a more competitive environment. Thrifts will become more like banks but still remain primarily housing credit institutions. The act also promotes a certain consistency in the flow of funds to thrifts and thereby allows more effective competition in easy and tight money periods. The act does impose certain competitive hazards and costs. Some banks or thrift institutions will merge or be absorbed by other institutions. Large non-Fed member banks will potentially suffer a loss of earnings. The total volume of housing credit will still grow but the rate of growth will probably be much less than the earlier post World War II era.

The act provides for many changes but also increases the possibility of future changes. Two unresolved issues are branch banking (including interstate banking) and the competitive equity between banks and the banking activities of such firms as Merrill Lynch and Sears. These two issues are particularly important in Indiana.

As the financial system becomes more competitive, greater emphasis and demands will be made on management. The profitability and continued existence of some financial institutions provides a challenge to good management. It will be interesting to see how effectively management operates in an increasingly competitive economic environment.

Wells	23,821	25,285	25,000	– 285	– 1.1	40	40
Whitley	23,395	26,068	25,100	– 968	– 3.7	61	60
NNE	576,460	622,449	614,900	– 7,549	– 1.3		
HSA 1 (North)	*1,882,264*	*1,958,947*	*1,959,100*	*153*	*0.0*		
Boone	30,870	36,317	34,700	– 1,617	– 4.4	76	67
Hamilton	54,532	81,853	82,600	747	.9	13	19
Hancock	35,096	43,858	44,400	542	1.2	16	16
Hendricks	53,974	69,320	69,400	80	.1	27	28
Johnson	61,138	76,857	79,300	2,443	3.2	6	9
Marion	792,299	758,354	770,300	11,946	1.6	2	14
Morgan	44,176	51,821	51,600	– 221	– .4	37	33
Shelby	37,797	39,643	39,500	– 143	– .4	34	32
Central 1	1,109,882	1,158,023	1,171,800	13,777	1.2		
Blackford	15,888	15,528	16,000	472	3.0	19	10
Delaware	129,219	127,283	128,800	1,517	1.2	7	17
Fayette	26,216	28,028	28,200	172	.6	23	22
Franklin	16,943	19,516	19,300	– 216	– 1.1	36	39
Henry	52,603	51,658	54,200	2,542	4.9	5	4
Jay	23,575	22,967	23,600	633	2.8	15	11
Madison	138,451	138,771	138,000	– 771	– .6	50	34
Randolph	28,915	29,954	29,900	– 54	– .2	30	30
Rush	20,352	19,556	20,600	1,044	5.3	10	1
Union	6,582	6,863	6,800	– 63	– .9	32	37
Wayne	79,109	75,962	76,500	538	.7	17	21
Central 2	537,853	536,086	541,900	5,814	1.1		
Grant	83,955	80,104	83,500	3,396	4.2	4	6
Howard	83,198	86,595	90,000	3,405	3.9	3	7
Tipton	16,650	16,816	15,900	– 916	– 5.4	57	76
Central 3	183,803	183,515	189,400	5,885	3.2		
Benton	11,262	10,192	10,700	508	5.0	18	2
Carroll	17,734	19,467	17,900	– 1,567	– 8.1	75	87

Ripley	21,138	24,481	23,200	– 1,281	– 5.2	71	74
Switzerland	6,306	7,128	6,900	– 228	– 3.2	38	57
Southern 3	229,627	260,311	249,700	–10,611	– 4.6		
Daviess	26,602	27,768	25,800	– 1,968	– 7.1	81	83
Dubois	30,934	34,336	33,400	– 936	– 2.7	59	53
Gibson	30,444	33,002	32,000	– 1,002	– 3.0	63	55
Knox	41,546	41,558	38,400	– 3,158	– 7.6	86	85
Martin	10,969	11,029	11,200	171	1.5	24	15
Pike	12,281	13,431	12,300	– 1,131	– 8.4	68	88
Southern 4	152,776	161,124	153,100	– 8,024	– 5.3		
Clark	75,876	88,556	90,000	1,444	1.6	8	13
Crawford	8,033	9,699	9,000	– 699	– 7.2	49	84
Floyd	55,622	61,081	58,300	– 2,781	– 4.6	84	68
Harrison	20,423	27,209	28,100	891	3.3	12	8
Orange	16,968	19,660	17,500	– 2,160	–11.0	82	91
Scott	17,144	20,335	20,400	65	.3	28	25
Washington	19,278	21,920	20,800	– 1,120	– 5.1	67	72
Southern 5	213,344	248,460	244,100	– 4,360	– 2.0		
Perry	19,075	19,211	18,000	– 1,211	– 6.3	70	80
Posey	21,740	26,258	24,500	– 1,758	– 6.7	80	82
Spencer	17,134	19,395	18,100	– 1,295	– 6.7	72	81
Vanderburgh	168,772	166,723	159,500	– 7,223	– 4.3	92	64
Warrick	27,972	40,302	41,000	698	1.7	14	12
Southern 6	254,693	271,889	261,100	–10,789	– 4.2		
HSA 3 (South)	*1,229,059*	*1,349,304*	*1,304,900*	*–44,404*	*– 3.3*		
INDIANA	**5,193,669**	**5,454,154**	**5,427,300**	**–26,854**	**– 0.5**		

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Historical Analysis of Employment in the Gary-Hammond-East Chicago SMSA by Industrial Sector, 1970 to 1980 10
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Indiana's Minorities: 1980

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The 1980 Census of Population found more persons in the United States and in Indiana of minority backgrounds than did the 1970 Census. Improved techniques of enumeration and greater public cooperation may be credited with this more complete count of the population. Although researchers will now have more complete information on minorities than ever before, new difficulties have arisen. Data from the 1980 Census are not comparable with the 1970 results. If the undercount of blacks in the 1970 Census was more than 7%, the figure for 1980 is estimated to be between 4 and 5%. Thus, without any change in population at all, the black population will show greater numbers in 1980 than in 1970. The temptation will be to discuss the "growth" in the black (and other minority) population, but the reality may not support such discussion. In this article we will refer to increases in the count of persons, asking the reader to remember that part of these increases is due to improved data collection.

Two major minority groups are identified in the Census: racial minorities and ancestral or ethnic minorities. To date only the numbers of persons of different races and those of Spanish origin have been released by the U.S. Bureau of the Census. In time data will be available on a variety of ethnic ancestries (English, German, Irish, Italian, Jamaican, Lebanese, Venezuelan, etc.). Persons of Spanish or other origins may be of any race just as persons of many races may be of Spanish origin. Racial or ethnic identification is self-determined. In answer to the census question a person could identify any of the following:

White
Chinese
Korean
Asian Indian
Samoan
Black or Negro
Filipino
Vietnamese
Hawaiian
Aleut
Japanese
Eskimo
Native American
Guamanian
Other

No scientific concept of race was implied by the question or the answers offered. The diversity of hereditary backgrounds for citizens of this melting-pot nation no doubt caused confusion for the respondents and the Census Bureau. The category "Other" was used extensively to represent this diversity. In Table 1, the Indiana population in 1980 is presented for each county. Data for White, Black, Native American, Asian, and All Others are shown.

RACIAL COMPOSITION OF INDIANA COUNTIES–1980

County	*Total*	*White*	*Black*	*Native American*	*Asian**	*Other*
Adams	29,619	29,100	7	37	63	412
Allen	294,335	262,908	26,396	528	1,286	3,217
Bartholomew	65,088	63,477	974	70	327	240
Benton	10,218	10,174	11	6	2	25
Blackford	15,570	15,524	4	21	6	15
Boone	36,446	36,227	45	59	64	51
Brown	12,377	12,287	18	20	11	41
Carroll	19,722	19,630	17	23	15	37
Cass	40,936	40,449	318	50	74	45
Clark	88,838	83,869	4,317	130	301	221
Clay	24,862	24,713	90	19	23	17
Clinton	31,545	31,344	13	23	47	118
Crawford	9,820	9,757	13	43	7	–
Daviess	27,836	27,649	124	14	19	30
Dearborn	34,291	33,930	227	27	79	28
Decatur	23,841	23,749	2	9	74	7
DeKalb	33,606	33,374	28	64	48	92
Delaware	128,587	120,018	7,587	212	337	433
Dubois	34,238	34,129	8	17	40	44
Elkhart	137,330	129,971	5,761	256	491	851
Fayette	28,272	27,691	459	27	59	36
Floyd	61,169	58,736	2,182	39	109	103
Fountain	19,033	18,958	4	16	21	34
Franklin	19,612	19,569	2	13	23	5
Fulton	19,335	19,072	156	39	39	29
Gibson	33,156	32,427	618	19	51	41
Grant	80,934	74,581	5,264	158	245	686
Greene	30,416	30,293	10	21	69	23
Hamilton	82,381	81,375	365	74	410	157
Hancock	43,939	43,636	43	36	108	116
Harrison	27,276	27,059	145	21	32	19
Hendricks	69,804	69,117	353	64	168	102
Henry	53,336	52,649	496	67	48	76
Howard	86,896	81,711	4,279	184	271	451
Huntington	35,596	35,269	40	99	93	95
Jackson	36,523	36,217	129	50	88	39
Jasper	26,138	25,919	55	15	31	118
Jay	23,239	23,085	48	24	29	53
Jefferson	30,419	29,844	396	37	85	57
Jennings	22,854	22,588	197	13	35	21
Johnson	77,240	75,912	833	63	284	148
Knox	41,838	41,107	445	44	98	144
Koscuisko	59,555	58,719	212	55	198	371
LaGrange	25,550	25,440	3	33	40	34
Lake	522,965	373,428	126,051	665	2,076	20,745
LaPorte	108,632	98,899	8,662	195	366	510
Lawrence	42,472	42,224	115	38	63	32
Madison	139,336	128,913	9,652	155	294	322

*Includes Pacific Islanders

Racial Composition of Indiana Counties–cont.

County	*Total*	*White*	*Black*	*Native American*	*Asian**	*Other*
Marion	765,233	601,092	155,310	1,098	4,260	3,473
Marshall	39,155	38,769	61	20	58	247
Martin	11,001	10,930	7	16	36	12
Miami	39,820	37,886	1,087	377	172	298
Monroe	98,387	93,296	2,513	129	1,070	1,379
Montgomery	35,501	35,211	154	29	46	61
Morgan	51,999	51,845	8	42	69	35
Newton	14,844	14,743	11	18	38	34
Noble	35,443	35,211	28	37	29	138
Ohio	5,114	5,053	48	2	8	3
Orange	18,677	18,376	227	19	26	29
Owen	15,840	15,724	38	39	27	12
Parke	16,372	16,270	41	26	25	10
Perry	19,346	19,272	12	24	26	12
Pike	13,465	13,395	12	26	19	13
Porter	119,816	117,846	299	164	551	956
Posey	26,414	25,989	302	36	44	43
Pulaski	13,258	13,155	57	2	16	28
Putnam	29,163	28,579	434	36	68	46
Randolph	29,997	29,781	69	35	46	66
Ripley	24,398	24,308	7	17	46	20
Rush	19,604	19,384	164	24	15	17
St. Joseph	241,617	216,070	21,604	512	1,178	2,253
Scott	20,422	20,296	2	17	43	64
Shelby	39,887	39,412	301	50	74	50
Spencer	19,361	19,174	118	24	31	14
Starke	21,997	21,808	32	42	38	77
Steuben	24,694	24,351	65	34	96	148
Sullivan	21,107	21,034	22	25	15	11
Switzerland	7,153	7,114	14	10	12	3
Tippecanoe	121,702	116,918	2,040	156	1,703	885
Tipton	16,819	16,723	2	25	24	45
Union	6,860	6,816	21	11	10	2
Vanderburgh	167,515	154,335	11,934	191	657	398
Vermillion	18,229	18,144	13	23	34	15
Vigo	112,385	104,799	6,170	192	615	609
Wabash	36,640	36,154	147	147	64	128
Warren	8,976	8,949	3	10	8	6
Warrick	41,474	40,971	295	40	111	57
Washington	21,932	21,870	7	13	22	20
Wayne	76,058	71,697	3,856	124	201	180
Wells	25,401	25,268	4	16	25	88
White	23,867	23,759	10	20	41	37
Whitley	26,215	26,073	9	45	44	44
Indiana	**5,490,179**	**5,004,567**	**414,732**	**7,835**	**20,488**	**42,557**

*Includes Pacific Islanders

Blacks

Indiana's largest racial minority is its black population. 414,732 persons identified themselves as black, slightly more than 7.5% of the total population in the state. This population, although present in every county, is largely concentrated in major urban counties. Two of every three blacks in Indiana live in either Marion or Lake counties; approximately one quarter of the total state population is in these counties. This represents no change of any consequence from the 1970 census findings. The 18 counties with at least 1,000 blacks each (see Table 2) have 97.5% of all blacks in the state. The same percentage also represented the top 18 counties in 1970. In 74 counties there are fewer than 1,000 blacks each and together these 74 counties have less than 2.5% of the state's black population.

The increased count of blacks in Indiana totaled 57,268 or 16% more than in 1970. Again, this does not represent the growth of the black population but includes the, as yet undetermined, improved coverage of the count of persons. Nearly 61% of the increased count occurred in Marion and Lake Counties. In 33 Indiana counties, the number of blacks counted decreased from 1970 to 1980; most of these changes were small in number with the exception of Johnson County where a decrease of 1,001 was reported (due largely to the phase-out of the Job Corps at Camp Atterbury).

Blacks equal 5% or more of the population in eleven Indiana counties. Another sixteen counties have between 1 and 5% black popula-

Table 2
INDIANA COUNTIES WITH 1,000 OR MORE BLACKS IN 1980

County	*1980 Count*	*1980 Rank*	*1970 Count*	*1970 Rank*	*Difference in Count*
Marion	155,310	1	134,486	1	+20,824
Lake	126,051	2	112,014	2	+14,037
Allen	26,396	3	19,298	3	+ 7,098
St. Joseph	21,604	4	18,587	4	+ 3,017
Vanderburgh	11,934	5	10,279	5	+ 1,655
Madison	9,652	6	8,026	6	+ 1,626
LaPorte	8,662	7	7,037	7	+ 1,625
Delaware	7,587	8	6,959	8	+ 628
Vigo	6,170	9	5,378	9	+ 792
Elkhart	5,761	10	4,395	11	+ 1,366
Grant	5,264	11	4,512	10	+ 752
Clark	4,317	12	3,388	14	+ 929
Howard	4,279	13	3,577	13	+ 702
Wayne	3,856	14	3,835	12	+ 21
Monroe	2,513	15	1,437	16	+ 1,076
Floyd	2,182	16	2,105	15	+ 77
Tippecanoe	2,040	17	1,035	17	+ 1,005
Miami	1,087	18	991	18	+ 96

Table 3
INDIANA COUNTIES WITH
1.0% OR MORE BLACK POPULATION–1980

Rank in State	*County*	*Percent Black*
1	Lake	24.1
2	Marion	20.3
3	Allen	9.0
4	St. Joseph	8.9
5	LaPorte	8.0
6	Vanderburgh	7.1
7	Madison	6.9
8	Grant	6.5
9	Delaware	5.9
10	Vigo	5.5
11	Wayne	5.1
12	Howard	4.9
13	Clark	4.9
14	Elkhart	4.2
15	Floyd	3.6
16	Miami	2.7
17	Monroe	2.6
18	Gibson	1.9
19	Tippecanoe	1.7
20	Fayette	1.6
21	Bartholomew	1.5
22	Putnam	1.5
23	Jefferson	1.3
24	Orange	1.2
25	Posey	1.1
26	Johnson	1.1
27	Knox	1.1

tions. In 65 of 92 counties, blacks equal less than 1% of the population of the county. See Table 3.

Native Americans

Native Americans, including American Indians, Eskimos, and Aleuts, totaled 7,835 or .14% of the Hoosier population in 1980. It is likely that American Indians constitute an overwhelming majority of this population segment. In no county did the number of Indians exceed 1% of the county's population. Marion County alone (the state's most populous county) had more than 1,000 Indians; one in every seven native Americans within the state lives in Marion County, but they total less than two-tenths of one percent of that county's population.

Asians

The 1980 Census reported 20,488 Asians, including Pacific Islanders, in the state or .37% of the state's population. Six counties, including Monroe and Tippecanoe, where major universities are located, reported 1,000 or more Asians. One in five Asians lives in Marion County (4,260 persons), where this diverse group nonetheless equaled just one-half of one percent of the county's total population. Only in Monroe and Tippecanoe counties were Asians equal to one percent of the county population.

Other Races

The many different races included in this catch-all group totaled 42,557 or .77% of the state's population. Nearly half of all those identifying themselves in this group were in Lake County. The practice of the Census Bureau to classify persons who identified themselves by write-in answers to this question as Cuban, Puerto Rican, or Mexican as "Other" tends to raise some question as to the usefulness of the classification. In 1970 such persons were classified as "White". Although many may be of diverse backgrounds (black, Indian, etc.) the utility of the classification is limited.

White

The dominant race in Indiana is clearly white. Just over 91% (5,004,567) of the Hoosiers responding to the Census classified themselves as white. Only four counties (Allen, Lake, Marion, and St. Joseph) had less than 90% of their population represented as white. Fifty of the 92 counties had 99% or more their populations indicating "White" on the Census return. These virtually homogeneous counties do not reflect the diversity of population that characterizes the nation and the state.

Data for this report were derived from a computer tape provided by the U.S. Bureau of the Census. Interested persons will find details available in *1980 Censuses of Population and Housing, Advanced Reports: Indiana* (PHC80-V-16) March 1981. Copies of this report are in most public libraries and in all affiliates of the Indiana State Data Center.

Spanish Origin

87,020 or 1.6% of all Hoosiers identified themselves as being of Spanish origin when the 1980 Census was taken. Persons of Spanish origin may be of any race. This classification is self-designated and includes persons who consider themselves to be of various origins: Mexican, Puerto Rican, Cuban, Spanish, Spanish/American, Hispano, Latino or other groups from Spain or Spanish-speaking countries. The person identifying one of these groups need not have a Spanish surname and may be of foreign birth or one in a long line of American citizens. The 1980 data on persons of Spanish origin is not subject to comparisons with the 1970 data because of substantial revisions in the question on the Census.

Persons of Spanish origin were found in each Indiana county, but that population is highly concentrated, with 50.5% of all Spanish-origin persons located in Lake County. Only five counties have a higher representation of Spanish-origin population than the state average; in addition to Lake these are Adams, Allen, Kosciusko, and Porter counties. In Table 4 the number of Spanish-origin persons are listed for each county. In addition data are presented for the percent of the county's population who indicated Spanish origin, and the percent of all Spanish-origin persons in the state who are located in that county. For example: the 6,820 Spanish-origin persons in Marion County represent 0.89% of all persons in Marion County and 7.83% of all Spanish-origin persons in the state.

When additional data from the 1980 Census of Population become available, differences between the population of Spanish origin and persons of other heritages will be a subject of extensive analysis in many areas of the nation, including selected Indiana communities.

Table 4
HOOSIERS OF SPANISH ORIGIN–1980

County	*Number*	*Percent of County Population*	*Percent of Persons of Spanish Origin in Indiana*
Adams	812	2.74	0.93
Allen	4,743	1.61	5.45
Bartholomew	427	.65	.49
Benton	57	.55	.06
Blackford	74	.47	.08
Boone	225	.61	.25
Brown	88	.71	.10
Carroll	104	.52	.11
Cass	185	.45	.21
Clark	435	.48	.49
Clay	68	.27	.07
Clinton	422	1.33	.48

Hoosiers of Spanish Origin—cont.

County	*Number*	*Percent of County Population*	*Percent of Persons of Spanish Origin in Indiana*
Crawford	46	.46	.05
Daviess	85	.30	.09
Dearborn	128	.37	.14
Decatur	80	.33	.09
DeKalb	286	.85	.32
Delaware	811	.63	.93
Dubois	138	.40	.15
Elkhart	1,719	1.25	1.97
Fayette	132	.46	.15
Floyd	350	.57	.40
Fountain	82	.43	.09
Franklin	108	.55	.12
Fulton	85	.43	.09
Gibson	142	.42	.16
Grant	1,271	1.57	1.46
Greene	97	.31	.11
Hamilton	436	.52	.50
Hancock	271	.61	.31
Harrison	107	.39	.12
Hendricks	272	.38	.31
Henry	273	.51	.31
Howard	939	1.08	1.07
Huntington	192	.53	.22
Jackson	157	.42	.18
Jasper	275	1.05	.31
Jay	134	.57	.15
Jefferson	134	.44	.15
Jennings	97	.42	.11
Johnson	478	.61	.54
Knox	176	.42	.20
Kosciusko	961	1.61	1.10
Lagrange	149	.58	.17
Lake	43,932	8.40	50.48
LaPorte	1,191	1.09	1.36
Lawrence	170	.40	.19
Madison	789	.56	.90
Marion	6,820	.89	7.83
Marshall	600	1.53	.68
Martin	34	.30	.03
Miami	463	1.16	.53
Monroe	1,071	1.08	1.23

Hoosiers of Spanish Origin—cont.

County	*Number*	*Percent of County Population*	*Percent of Persons of Spanish Origin in Indiana*
Montgomery	129	.36	.14
Morgan	194	.37	.22
Newton	113	.76	.12
Noble	346	.97	.39
Ohio	14	.27	.01
Orange	97	.51	.11
Owen	61	.38	.07
Parke	70	.42	.08
Perry	52	.26	.05
Pike	76	.56	.08
Porter	2,689	2.24	3.09
Posey	115	.43	.13
Pulaski	90	.67	.10
Putnam	142	.48	.16
Randolph	208	.69	.23
Ripley	113	.46	.12
Rush	65	.33	.07
St. Joseph	3,663	1.51	4.20
Scott	231	1.13	.26
Shelby	149	.37	.17
Spencer	81	.41	.09
Starke	228	1.03	.26
Steuben	122	.49	.14
Sullivan	58	.27	.06
Switzerland	59	.82	.06
Tippecanoe	1,385	1.13	1.59
Tipton	113	.67	.12
Union	20	.29	.02
Vanderburgh	763	.45	.87
Vermillion	74	.40	.08
Vigo	862	.76	.99
Wabash	225	.61	.25
Warren	29	.32	.03
Warrick	151	.36	.17
Washington	99	.45	.11
Wayne	365	.47	.41
Wells	211	.83	.24
White	104	.43	.11
Whitley	133	.50	.15
Indiana	**87,020**	**1.59**	**100.00**

Historical Analysis of Employment in the Gary-Hammond-East Chicago SMSA by Industrial Sector, 1970 to 1980

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Employment in the Gary-Hammond-East Chicago SMSA grew 14% from 1970 to 1980. The trade industry provided the largest number of new jobs, while the manufacturing sector declined because of a significant drop in employment in the nondurable goods sector. The fabricated metals industry was one of the most severely affected.

In this paper a historical analysis of the employment in the Gary-Hammond-East Chicago SMSA from 1970 to 1980 is done for the primary industrial sectors of the economy. An in-depth analysis of the steel industry is also provided for the same time period.

The study is based on analysis of establishment employment data gathered by the Indiana Employment Service. It uses the shift-share technique to evaluate the growth of industries in the Gary-Hammond-East Chicago region and to compare industrial growth of the region to the nation as a whole.

Definitions and Methodology

Establishment employment is nonagricultural wage and salaried employment in industries located in the area. Workers are included whether or not residents of the area [6].

Employment estimates are prepared monthly based on sample data from local employers. A benchmark is established in March of each year using employment figures reported by employers on their quarterly unemployment insurance payroll reports. Employment on these reports constitutes 95% of all nonagricultural wage and salaried employment. The statistical data used for this article takes into account the 1980 benchmark.

The authors used shift-share analysis to evaluate the growth of industries in the Gary-Hammond-East Chicago region, to compare industrial growth of the region to the nation for the decade of the seventies and to show employment trends by industry for two five-year periods, 1970-74 and 1975-79.

Trends In Payroll Employment By Section, 1970-80

Overall total establishment employment in the Gary-Hammond-East Chicago SMSA grew 14% from 1970 to 1980. In 1970, there were

224,000 workers; in 1980, employment stood at 255,500.

Table 1 clearly indicates that the nonmanufacturing sector of the region produced this growth. From 1970 to 1980 the nonmanufacturing sector grew 38%; average annual employment rose from 115,400 to 159,500. During the same period, the manufacturing sector declined 13%, from 107,800 to 93,600, and 14,200 people were eliminated from the work force.

Analysis of the overall trend in total establishment employment in the Gary-Hammond-East Chicago SMSA by industrial sector indicates that the trade sector provided the highest number of new jobs for workers in this region. As Table 1 shows, 15,300 new workers were added to the employed work force during 1970-1980, a 42% increase in employment. The service industry ranked second in providing the highest number of jobs for workers (14,000) and represented the largest increase (61%) in new workers for this time period. Retail trade provided the lion's share of the trade sector growth, as 12,600 (82%) of the 15,300 new workers were in retail trade.

The extraordinary growth that was demonstrated by both the trade and service and miscellaneous industries is directly linked to the development of suburban areas in the SMSA. Foremost was the almost overnight mushrooming of Merrillville as the retail "hub" of the area. Not only did department stores and various retail specialty shops emerge, but also numerous restaurants established themselves in the previously semirural community. As residents migrated away from the major cities of the area to "suburbia", the farmlands became sites for single family residences as well as apartment/condominium complexes. In the service and miscellaneous category, a sizeable portion of the growth was attributable to the expansion and/or new construction of hospital/medical facilities.

The weakest component in nonmanufacturing, was the transportation, communications and utilities sector. During the seventies, it showed the smallest increase in employment, only 14% or 1,900 new positions.[1]

In the manufacuturing sector, Table 1 shows that for every individually identified industry except transportation equipment[2] employment declined during the time period 1970 to 1980. The two weakest industries, fabricated metals and petroleum refining, combined to reduce employment in the region by 5,500 workers, or 71% of all jobs lost during the 1970-79 period.

In durable goods, fabricated metals showed the most significant loss of workers—4,600 or 46% from 1970 to 1980. From 1979 to 1980, when employment plummeted 1.7 thousand workers, a dramatic drop brought employment in the fabricated metals industry to its lowest point of 5.4 thousand employed in 1980. One major factor that affected the decline in the fabricated metals industry was its relationship to both the automotive and construction industries (particularly structural steel).

The petroleum refining industry showed a dramatic decline (46.6%) in the nondurable goods sector, with 2,700 workers losing employment in this industry. This drop accounts for approximately two-thirds of the total loss of jobs in the nondurable goods sector. Two primary ingredients caused the decline in the petroleum refining industry, which has been underway for the past 18 years: the permanent closing of one sizeable facility and the automation of remaining plants.

Table 1 reveals that during the seventies the weakness of the manufacturing sector was almost exclusively due to overall softness in

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[1] The period 1970-79 was used because the data for 1970-80 incorporate the largest industrial dispute in the utility sector for 1979-80 and are not representative of the entire period.

[2] The gain in the transportation equipment industry was a result of stepped up demand for railroad car production. (A local manufacturer received a sizeable order to build cars for the AMTRAK System.)

Table 1
ESTABLISHMENT EMPLOYMENT, GARY-HAMMOND-EAST CHICAGO SMSA, EMPLOYMENT BY INDUSTRIAL SECTOR, 1970 - 1980

	Annual Averages (Rounded in thousands)				*1970 – 1979 Change*		*1970 – 1980 Change*	
	1970	*1975*	*1979*	*1980*	*Numerical*	*Percent*	*Numerical*	*Percent*
Total establishment	224.0	232.6	268.0	255.5	44,000	19.6	31,500	14.1
Labor-management disputes	0.8	0.3	0.2	2.4	– 600	–75.0	1,600	200.0
Payroll employment	223.2	232.3	267.8	253.1	44,600	20.0	29,900	13.4
Manufacturing	107.8	96.3	103.8	93.6	–4,000	– 3.7	–14,200	–13.2
Durable goods	91.3	83.6	91.2	81.3	– 100	– 0.1	–10,000	–11.0
Primary metals	70.0	65.5	71.2	64.6	1,200	1.7	– 5,400	– 7.7
Steel mills	66.1	61.1	66.6	60.6	500	0.8	– 5,500	– 8.3
Fabricated metals	10.0	7.4	7.1	5.4	–2,900	–29.0	– 4,600	–46.0
Transportation equipment	3.1	2.8	5.3	4.7	2,200	71.0	1,600	51.6
All other durables	8.2	7.9	7.6	6.6	– 600	– 7.3	– 1,600	–19.5
Nondurable goods	16.5	12.7	12.6	12.3	–3,900	–23.6	– 4,200	–25.5
Food products	2.9	2.2	2.2	2.1	– 700	–24.1	– 800	–27.6
Printing & publishing	2.5	1.9	2.0	1.9	– 500	–20.0	– 600	–24.0
Chemicals	3.3	2.8	2.9	3.0	– 400	–12.1	– 300	– 9.1
Petroleum refining	5.8	3.7	3.2	3.1	–2,600	–44.8	– 2,700	–46.6
All other nondurables	2.0	2.1	2.3	2.2	300	15.0	200	10.0
Nonmanufacturing	115.4	136.0	164.0	159.5	48,600	42.1	44,100	38.2
Construction	12.7	12.3	18.7	15.3	6,000	47.2	2,600	20.5
Trans., comm., & utilities	13.9	14.3	15.8	13.2	1,900	13.7	– 700	– 5.0
Trade	36.7	42.7	53.4	52.0	16,700	45.5	15,300	41.7
Wholesale	5.5	6.2	8.2	8.2	2,700	49.1	2,700	49.1
Retail	31.2	36.5	45.2	43.8	14,000	44.9	12,600	40.4
Finance, insur., & real estate	6.1	7.5	9.6	9.4	3,500	57.4	3,300	54.1
Service & miscellaneous	22.9	29.5	35.8	36.9	12,900	56.3	14,000	61.1
Government	23.1	29.7	30.7	32.7	7,600	32.9	9,600	41.6

SOURCE: Indiana Employment Security Division.
Establishment employment is nonagricultural wage and salaried employment in industries located in the area.
Workers are included whether or not residents of the area.
Counties in this *Standard Metropolitan Statistical Area* are Lake and Porter.

nondurable goods. Employment in that sector declined 3,900 workers, 98% of the net loss of 4,000 workers in manufacturing. Within the durable goods sector, employment was mixed. Though employment in fabricated metals fell significantly, the whole sector showed only a net loss of 100 workers because of the strength of the transportation equipment and primary metals industries. The brunt of the employment loss in the manufacturing sector was, therefore, borne by the nondurable goods industries, which declined 24% from 1970 to 1979.

Table 2 highlights the strength of the growth of the nonmanufacturing sector by showing the change in the distribution of payroll employment from 1970 to 1980. The table reveals that the nonmanufacturing sector represented a little over half of the payroll employment (52%) in 1970, but grew to nearly two-thirds (63%) by 1980. The manufacturing sector continuously declined throughout the period, from a peak of 48% in 1970 to a trough of 37% in 1980.

Table 2 accentuates the employment strength of the trade and service sectors. From 1970 to 1980, the trade sector grew from 16.5% to 20.6% of the total payroll employment. The service sector gained 4.3% of the total payroll employment and ended this period with 14.6% of the employed work force in the

Table 2
ESTABLISHMENT EMPLOYMENT, GARY-HAMMOND-EAST CHICAGO SMSA, PERCENT DISTRIBUTION OF ANNUAL AVERAGE PAYROLL EMPLOYMENT BY INDUSTRIAL SECTOR, 1970 - 1980

	1970	*1975*	*1979*	*1980*
Total Establishment	100.0	100.0	100.0	100.0
Labor-management disputes	–	–	–	–
Payroll employment	99.6	99.8	99.9	99.1
Manufacturing	48.3	41.5	38.8	37.0
Durable goods	40.9	36.0	34.1	32.1
Primary metals	31.3	28.2	26.6	25.5
Steel mills	29.6	26.3	24.9	23.9
Fabricated metals	4.5	3.2	2.7	2.1
Transportation equipment	1.4	1.2	2.0	1.9
All other durables	3.7	3.4	2.8	2.6
Nondurable goods	7.4	5.5	4.7	4.9
Food products	1.3	1.0	.8	.8
Printing & publishing	1.1	.8	.7	.8
Chemicals	1.5	1.2	1.1	1.2
Petroleum refining	2.6	1.6	1.2	1.2
All other nondurables	.9	.9	.9	.9
Nonmanufacturing	51.7	58.5	61.2	63.0
Construction	5.7	5.3	7.0	6.0
Trans., comm., & utilities	6.2	6.1	5.9	5.2
Trade	16.5	18.4	19.9	20.6
Wholesale	2.5	2.7	3.0	3.3
Retail	14.0	15.7	16.9	17.3
Finance, insur. & real estate	2.7	3.2	3.6	3.7
Service & miscellaneous	10.3	12.7	13.4	14.6
Government	10.3	12.8	11.4	12.9

Source: Indiana Employment Security Division.
Establishment employment is nonagricultural wage and salaried employment in industries located in this area. Workers are included whether or not residents of the area.
Counties in this *Standard Metropolitan Statistical Area* are Lake and Porter.

region. The table also shows the weakness of the transportation, communication and utilities sector in which employment declined during the seventies from 6.2% to 5.9%.

In the manufacturing sector durable goods industries lost the largest percent distribution of employment. The table reveals that the durable goods industries declined 8.8% from 1970 to 1980, while the nondurable goods sector only lost 2.5% in its employment distribution to the total payroll employment.

In importance of total industrial employment, the steel industry represents the largest employer in the region; however, the degree of concentration of employment in this industry has been declining since 1970. In 1970 it represented about 30% of the total payroll employment. In 1979 the percentage distribution of total employment had declined to approximately 25%. This trend was further accentuated by the recession–the percentage distribution declined to about 24% in 1980. Moreover, over the decade the decline in employment in steel represented the largest drop in percent distribution of all industries.

Growth Trends By Industrial Classification: Shift-Share Analysis Of Growing And Declining Industries, 1970-1979

In order to provide a more in-depth analysis of the historical trend in the growth of the Gary-Hammond-East Chicago SMSA from 1970 to 1980, a shift-share analysis of the decade of the seventies was done.[3]

Shift-share analysis is a technique used to evaluate the trend rates of growth of a particular region and to compare it to another aggregate measure such as the nation as a whole. The method can also be used to evaluate the relationship between regional growth and industrial structure (see [1] [2] [3] [4] [7] [8] and [9] for a detailed description of the method and application).

This article uses shift-share analysis to evaluate the overall regional employment growth of the Gary-Hammond-East Chicago SMSA for the decade of the seventies, to decompose the decades into two periods, 1970 to 1974 and 1975 to 1979, and then to compare regional growth to national growth for the decade.

Overall Shift-Share Analysis, 1970-1979

Generally, the shift-share analysis indicates that the overall growth of payroll employment of the Gary-Hammond-East Chicago SMSA was 20%. As Table 3 indicates, the growth for the nation was 26%.[4] Therefore, regional growth was slower than national growth by 6%.

Shift-share analysis of the trend of national and regional rate of change in the seventies reveals that the rate of growth of the region was generally faster than that of the nation as a whole for nonmanufacturing and slower than that of the nation for manufacturing.

In particular, the growth of employment for the SMSA in the nonmanufacturing sector was greater than the U.S. for every identified industry except transportation, communication and utilities. All nonmanufacturing industries for the U.S. and the region were growth industries during the seventies. For the region, as Table 3 shows, with the exception of government, and transportation, communication and utilities, all nonmanufacturing industries grew by more than 40%. Finance, insurance and real estate was the sector that grew most rapidly (57%), followed very closely by service (56%). Finance, insurance and real estate for the region far outpaced the nation as a whole growing 21% faster than the nation for the decade.

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[3] The authors caution the reader to acknowledge the fact that it is easier to change small numbers by a larger percentage than it is to change a large base; thus, in reading the shift-share analysis in comparing the region with the nation, the magnitude of the difference should be carefully interpreted.

[4] In Table 3, the numerical value of 1 indicates no change. Greater than 1 is growth, and less than 1 is declining rate of change. Also, if the number is 1.20, for example for payroll employment for SMSA 1970-79, this indicates that from 1970-79 the SMSA grew by 20%.

Table 3 also shows that for the nation manufacturing was a slight growth sector (8%), while for the region it was a declining sector (4%); thus, the nation outpaced the region by 12% in the manufacturing sector over the decade.

In particular, the durable goods sector of the region was essentially stable while the nondurable goods industries all showed substantial decline. As Table 3 shows, the nation outpaced the region by 25% for the nondurable goods sector as a whole. Only the food products industry was a declining industry for both the nation and the region, and even in this industry the national decline was 20% less than the regional decline.

The difference between the nation and the region, is vividly displayed in the rate of change of employment in petroleum refining. The nation showed a slight growth of 12%, while the region produced a 45% decline. Thus petroleum refining, which lagged behind the nation by 57%, declined by more than any other industry during the decade. Table 3 also reveals that for the SMSA, fabricated metals declined the most of any durable goods industry; for the nation as a whole, fabricated metals was a growth industry.

The fastest growth industry in the region was the transportation equipment industry, which grew 71%. This growth outpaced that of the nation by 11%.

Five Year Shift-Share Analysis

In the next section the decade of the seventies is split into two equal periods, 1970-74 and 1975-79. Shift-share analysis is used to evaluate both the rate of growth of the Gary-Hammond-East Chicago SMSA and the U.S., and industrial sectors.

Overall Assessment: 1970-74 and 1975-79.

Employment growth was positive in both the first and second halves of the past decade for the nation and for the region. In both time periods the rate of growth of the nation exceeded that of the region. For instance, employment growth for the nation was 10% for 1970-74 while employment growth for the region was only 7%. During the second half of the decade the nation again grew faster than the region, 16% compared with 15%. The region however, tended to grow at a faster rate during the second half of the decade compared with the growth of the nation; thus, the difference between the growth of the nation and of the region is reduced to just 6%.

Shift-share analysis of the two historical time periods clearly reveals the impact of the 1973-75 recession and, therefore, the general strength of the economy during the second half of the decade. The analysis also reveals that the nonmanufacturing sector led the way to recovery for the Gary-Hammond-East Chicago SMSA, as it outpaced the growth of the manufacturing sector. For the nation as a whole, the relative strength of the nonmanufacturing sector is not much greater than the growth of the manufacturing sector (17% compared with 15%). Thus, shift-share analysis indicates that the recovery from the 1973-75 recession was much more evenly spread between the manufacturing and nonmanufacturing sectors for the nation than for the region (nonmanufacturing 21% versus manufacturing 8%).

First Half of the Decade: 1970-74

During 1970-74, total payroll employment for the region grew 7%. This growth was attributable to growth of the nonmanufacturing sector. All industries within that sector were growth industries, with the exception of construction, which declined 6%. The fastest-growing nonmanufacturing industry was the service sector, which grew 25%.

The manufacturing sector in the region was a very slightly declining sector. Its weakness was primarily due to the nondurable goods industries, as employment declined 15% during this period. Each industry in the nondurable goods sector declined, but both petroleum refining and food products, each of which declined 24%, showed the most significant weaknesses. Although employment in the durable goods sector grew slightly, employment in the fabricated metals industry showed a dramatic dip; other industries in the sector remained essentially stable.

For the nation as a whole, employment grew 10%. Although both manufacturing and nonmanufacturing contributed to the growth, nonmanufacturing grew faster—13% compared with 4%. For the nation, all nonmanufacturing industries, with the exception of transportation, communication and utilities, grew at about the same rate (13.6% on the average).

Within the nonmanufacturing sector for the region, all industries were growth industries, with the exception of construction. The service and government industries displayed the greatest strength as each grew about 25%.[5]

Table 3 reveals that for the nation as a whole, manufacturing was a growth sector, with its primary strength being derived from durable goods. Durable goods industries grew 6% while nondurables just held their own. Within the nondurable goods sector the food products industry showed a slight decline of 4%, while for the durable goods industries, hard-hit by the 1973-75 recession, the steel industry declined and the others moved slightly forward.

Second Half of the Decade: 1975-79

The shift-share analysis of the region and the nation reveals that from 1975 to 1979 the economy was in a recovery period. Employment tended to improve in both the region and the nation.

For the region, the strength of the employment recovery can be attributed primarily to the nonmanufacturing sector which grew 21%. The manufacturing sector grew 8%. Within nonmanufacturing, all industries grew. Construction, trade, and finance, insurance and real estate were the strongest. Construction grew by 52%, while trade and finance, insurance and real estate grew 32% and 28%, respectively.

In the manufacturing sector for the region durable goods industries increased 9% during 1975-79. Nondurables remained essentially stable with a 1% drop. The transportation equipment industry dominated the durable goods sector with a very significant growth of 89%, the largest for all industries. For the nondurable goods sector, petroleum refining declined the most significantly, 13%. The only other industry that declined during the 1975-79 recovery period was fabricated metals, which dropped 4%.

For the nation as a whole, employment grew fairly rapidly (16%), and this growth was rather evenly distributed between the manufacturing and nonmanufacturing sectors.

In the manufacturing sector, the greatest strength during the recovery period was the durable goods sector which grew 19%. The nondurable goods sector grew 8%. All industries within the manufacturing sector were growth industries. Transportation equipment grew the fastest (19%), followed by fabricated metals (18%) and printing and publishing (15%).

The shift-share analysis also reveals that all industries for the nonmanufacturing sector grew. The fastest growth occurred in construction, which increased 32%.

Differences Between Employment Growth of Region and Nation for the Subperiods of the Decade of the Seventies by Industrial Sector

In general, the shift-share analysis of the employment growth by industrial sector for the two time periods, 1970-74 and 1975-79, reveals a similar pattern of rate of change between the growth of the region and the growth of the nation.

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[5] Service actually grew 23%.

Although the difference is small, overall payroll employment for the nation outpaced the regional growth in both periods, 3% for 1970-74, and 1% for 1975-79. For the nation, the manufacturing sector grew in both subperiods, while for the region the manufacturing sector declined very slightly by 1% from 1970-74 and grew less rapidly than the nation as a whole for the next five years (15% compared with 8%).

Within the manufacturing sector, the pattern of employment shows that the nation outpaced the region primarily because of the weakness of nondurable goods sector for the region in both time periods. In particular, the petroleum refining industry in the region was very weak; it, in fact, represented the fastest declining industry for the region as compared to the nation. The weakness of the region as compared to the nation was further accentuated in the durable goods sector by the very negative trend in fabricated metals.

For the manufacturing sector the only very favorable comparison between the region and the nation was for the transportation equipment industry, which showed a significant degree of strength as it grew 70% more than the nation from 1975 to 1979.

The strength of the regional growth as compared with the national growth is shown in the nonmanufacturing sector. As Table 3 shows, in the first half of the seventies, in this sector, the region grew faster than the nation for all industries except construction, which lagged behind 18%. Notably, however, the difference in the growth of industries in the nonmanufacturing sector is slim, averaging only about 5% greater for the region than the nation.

During the second half of the decade, the region again outpaced the nation as a whole for the nonmanufacturing sector by an even larger margin (4% compared with 2%). But, service and government, which led to the primary strength areas in the previous period, did comparably worse than the nation, primarily because the region was starting to stabilize in its growth pattern from the earlier part of the decade. Table 3 also reveals that the transportation, communication and utilities industry, which had outpaced the growth rate of the nation as a whole in the previous five-year period, did not fare as well and, in fact, was below the growth of the nation by 3%. In the nonmanufacturing sector for the 1975-79 period, the strongest growth industry was construction, which grew 20% faster than the nation as a whole during the second half of the decade.

Dominant Industry: Highlights On Steel

The steel industry is the largest employer in the region. It employed 30% of the workers in 1970, and currently employs 24%. The only other industry that comes close to employing this percentage of the work force is the rapidly growing trade sector, which employs nearly 21% of the workers.

During the seventies, payroll employment in steel mills fluctuated with general economic conditions. As Table 4 shows, during the 1973-75 recession, employment fell from 67.5 thousand workers, its peak for the 1970-79 period, to its trough of 61.1 thousand workers. During the upturn in the business cycle, generally 1976-79, employment grew from 62.4 thousand workers to 66.6 thousand workers. But it is important to remember that the recovery of employment in the steel mills never reached the 1973-74 peak.

Table 4 reveals that the dominant role of the steel industry, as measured by the percentage distribution of employment in this region is declining. For example during the 1973-75 recession, the average percentage distribution was 27.6% and in the recovery period the percentage distribution was far below this statistic. The ten-year trend, indicates that

Table 4
PAYROLL EMPLOYMENT IN STEEL MILLS GARY-HAMMOND-EAST CHICAGO SMSA, ANNUAL AVERAGE, 1970 - 1980, AND PERCENT DISTRIBUTION OF ALL PAYROLL EMPLOYMENT

Year	*Annual Average Employment in Steel Mills (in thousands)*	*Percent of all payroll employment*
1970	66.1	29.6
1971	61.3	28.2
1972	63.0	28.2
1973	67.5	28.6
1974	67.5	28.1
1975	61.1	26.3
1976	62.4	26.1
1977	63.6	25.5
1978	65.7	25.5
1979	66.6	24.9
1980	60.6	23.9

SOURCE: Indiana Employment Security Division.

Establishment employment is nonagricultural wage and salaried employment in industries located in the area. Workers are included whether or not residents of the area.

Counties in this *Standard Metropolitan Statistical Area* are Lake and Porter.

steelworkers are permanently being displaced from the steel industry and are shifting into other areas of the labor force.

The shift-share analysis shows that the steel industry for the region is outpacing the nation as a whole by about 11%; thus, even though the impact of the steel industry is diminishing for the region, it is still a dominant factor for the Gary-Hammond-East Chicago SMSA, and is more important regionally than nationally.

General Conclusions

This historical analysis of the employment in the Gary-Hammond-East Chicago SMSA by industrial sector using shift-share analysis of the employment trends in this region and the nation yields these major conclusions:

In the Gary-Hammond-East Chicago SMSA, the period from 1970 to 1980 was a time of growth in the nonmanufacturing sector and of decline in the manufacturing sector. The four strongest growth industries were service, trade, transportation equipment, and finance, insurance and real estate. The two weakest industries were fabricated metals and petroleum refining. Employment trend analysis tends to indicate that steel is losing its dominant role as the employer of the region, although it is certainly still the most important.

Shift-share analysis for the decade of the seventies reveals that payroll employment grew faster for the nation as a whole than it did in the region. It indicates that for the nation, the manufacturing sector was a growth sector, while for the region it was a declining sector. The nondurable goods industries, especially petroleum refining, were the primary factor why the nation grew faster than the region. The analysis also reveals that the nonmanufacturing sector was a growth sector for both region and nation; the region generally outpaced the nation in all industrial sectors with the exception of transportation, communication and utilities. In the nonmanufacturing sector the finance, insurance and real estate and the service industries were the fastest growing in the region; the former category outpaced the nation as a whole more than any other nonmanufacturing industry.

Shift-share analysis comparing overall payroll employment for differences between employment growth for the region and the nation for the 1970-74 and the 1975-79 periods, generally indicates that the nation outpaced the region; this is primarily attributed to the overall weakness in the manufacturing sector, especially the nondurable goods industries. During these same periods, the region generally grew faster than the nation in the nonmanufacturing sector.

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Table 3
SHIFT-SHARE ANALYSIS
U.S. VS GARY-HAMMOND-EAST CHICAGO SMSA
RATE OF CHANGE OF EMPLOYMENT BY INDUSTRIAL SECTOR, 1970 - 1979

	1970 – 1974			*1975 – 1979*			*1970 – 1979*		
	U.S. rate of change	*SMSA rate of change*	*Difference*	*U.S. rate of change*	*SMSA rate of change*	*Difference*	*U.S. rate of change*	*SMSA rate of change*	*Difference*
Payroll employment	1.10	1.07	–.03	1.16	1.15	–.01	1.26	1.20	–.06
Manufacturing	1.04	.99	–.05	1.15	1.08	–.07	1.08	.96	–.12
Durable goods	1.06	1.02	–.04	1.19	1.09	–.10	1.13	1.00	–.13
Primary metals	1.02	1.03	.01	1.09	1.09	.00	.99	1.02	.03
Steel mills	.97	1.02	.05	1.03	1.09	.06	.90	1.01	.11
Fabricated metals	1.05	.87	–.18	1.18	.96	–.22	1.11	.71	–.40
Transportation equipment	1.01	1.03	.02	1.19	1.89	.70	1.11	1.71	.60
Nondurable goods	1.00	.85	–.15	1.08	.99	–.09	1.01	.76	–.25
Food products	.96	.76	–.20	1.04	1.00	–.04	.96	.76	–.20
Printing & publishing	1.01	.80	–.21	1.15	1.05	–.10	1.13	.80	–.33
Chemicals	1.01	.94	–.07	1.10	1.04	–.06	1.06	.88	–.18
Petroleum refining	1.03	.76	–.27	1.10	.87	–.23	1.12	.55	–.57
Nonmanufacturing	1.13	1.15	.02	1.17	1.21	.04	1.33	1.42	.09
Construction	1.12	.94	–.18	1.32	1.52	.20	1.29	1.47	.18
Trans., comm., & utilities	1.05	1.06	.01	1.14	1.11	–.03	1.14	1.13	–.01
Trade	1.13	1.15	.02	1.18	1.25	.07	1.34	1.46	.12
Wholesale	1.11	1.16	.05	1.17	1.32	.15	1.30	1.49	.19
Retail	1.14	1.15	.01	1.18	1.24	.06	1.36	1.45	.09
Fin., ins., & real estate	1.14	1.16	.02	1.19	1.28	.09	1.36	1.57	.21
Service & miscellaneous	1.16	1.25	.09	1.23	1.21	–.02	1.48	1.56	.08
Government	1.13	1.23	.10	1.06	1.03	–.03	1.24	1.33	.09

SOURCE: Indiana Employment Security Division and *Employment and Training Report of the President*, USGPO, 80.

Establishment employment is nonagricultural wage and salaried employment in industries located in the area
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The Business Outlook

A Midyear Review

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The economic forecasts were made in mid-May to mid-June, 1981.

The National Economy

EUGENE A. BRADY

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Economic forecasts for 1981 thus far have been off the mark. Most forecasters expected this year to be one of slow real growth, with the first half of the year almost flat to about 1% growth, and the second half improved somewhat, with growth approaching 2%. The actual 8.7% growth rate for the U.S. economy in the first quarter was a statistical surprise and the cause of major reevaluation. Where have we all gone wrong? Or have we? There appear to be two major reasons for the underestimation of real output: one due to data supplied by the Department of Commerce, and the other due to economists' underestimates of the U.S. savings rate over the recent past.

The forecasts for 1981 were made on the basis of data supplied by the Commerce Department in early and mid-1980. Toward the end of 1980, after most forecasts had been generated, the Department of Commerce announced broad revisions in their National Income and Product Accounts. These adjustments resulted in an increase of a little over 2% in real growth for the years 1972 through 1978, and a 3.5% upward adjustment for real growth for 1979 amounting to some $51 billion. Savings rates for households were revised to 4.7% in 1979, up substantially from the previous estimate of 3.4%. Nonresidential fixed investment was revised upward from 9.9% of GNP to 10.4% for 1979. These revisions were not reflected in the data bases on which the econometric and judgmental forecasts for 1981 and beyond were made. Since the real rate of growth depends critically on the savings rate and on the capital-output ratio, underestimation of the savings rate led to underestimated forecasts of real output growth.

These two factors feed into most economic models. The vast majority of these models base expectations of consumer spending, a powerful force in the economy amounting to about two thirds of GNP, on income saved as a percentage of after tax income. As real disposable incomes declined over the last couple of years (price increases exceeding wage increases generally), it was expected that consumer spending would fall off. It was this aspect of some of the major econometric models that caused them to forecast the 1979 and 1981 recessions, neither of which ever developed. (At least not so far!) They also all missed calling the 1980 recession, which did occur, even if quite briefly. What caused consumers to continue spending in the face of lower real incomes? The major reason was that these incomes as picked up in the national income accounts left out the capital gains that households realized through the sale or refinancing of personally owned housing, the value of which had risen even more rapidly than the overall rate of inflation. Townsend-Greenspan & Company, a New York consulting firm, made some rough estimates of savings rates that include as income that capital generated by sales and refinancing of single family homes. The savings rates generated by this adjusted income series are nearly double the official savings rates generated by the Department of Commerce. For example, the official savings rate of 5.7% for 1980 moves up to 11.2% when incomes are adjusted in the manner described above.

For these, and other reasons, economic forecasters are critically reevaluating their econometric models. Once changes are incorporated into the existing data bases, it would be expected that economic forecasts will improve substantially. The general public has become somewhat disenchanted with the predictive ability of economists. There has been a great deal of critical comment on economists, their methodologies and their ability to forecast. However, the economics profession is searching for new approaches to the so-called "conventional wisdom" and we should see new and improved data and methods employed in endeavors to peer into the future.

INTEREST RATES AND CREDIT

Last December we argued that future levels of interest rates were critical to the 1981 and 1982 outlooks, and the argument still holds. There is a wide array of opinion with regard to interest rates in both the short run and the long run.

The events of recent weeks show the folly of short-term forecasts for interest rates. The prime rate has climbed to a new peak and descended again without regard for forecasts.

We expect that long-term rates will remain at about their current levels, with a decline next year only if the new supply-side policies are effective in achieving real growth without inflation. The major reasons that we expect continued high interest rates this year are stated below.

1. Federal government borrowing needs are going to be greater than those generated by the anticipated budget deficits for Fiscal 1981 and 1982. Off-budget and federally-assisted borrowing adds extensively to the amount of funds required by the government in addition to its official budget deficit. Although the current administration is attempting to pare down off-budget outlays, they will remain an important facet of federal finance this calendar year and next. Take Fiscal 1980 for example. The official budget deficit was $59.6 billion. In addition to this you must add in the off-budget deficit ($14.2 billion), spending by government-sponsored enterprises ($23.9 billion) and government-guaranteed mortgage pools ($24.7 billion). The government really borrowed $122.4 billion last fiscal year, more than twice the official deficit. For the current fiscal year, the Reagan administration estimates that the budget deficit will run to about $55 billion. When all of the off-budget items are added, the total amount of federally-related borrowing will come to about $112 billion. Despite the administration's efforts with the 1982 fiscal-year budget, the deficit for on-budget borrowing will be in the neighborhood of $53 billion. Off-budget and federally-assisted borrowing will remain close to 1981 levels in Fiscal 1982, so that a conservative estimate of federal borrowing will run well over $100 billion in each of

the coming two years.

2. The Reagan administration estimate of the deficit assumes that the rate of inflation and long-term interest rates will decline rather substantially between now and the end of the year. Our estimate is for about 2.5% higher inflation and for higher interest rates than the official estimate. With the national debt currently running to some $965 billion, the difference between the concensus interest rate estimate and ours adds another $24 billion in interest charges on the national debt to the official estimate.

3. The demand for money is a function of money or nominal income rather than real income. Even if real growth during calendar 1981 were to be zero, the demand for loanable funds would rise at a rate equal to the rate of inflation. If that rate were 10% and a modest projection of real growth for 1981 runs at 3% (and we have an annual 8.7% already locked in for the first quarter), then the demand for funds will rise at 13% over the year. The Fed's current targets for allowable growth rates for the various measures of the money supply were lowered half a percentage point from their 1980 ranges and adjusted for a presumed one-time surge in NOW accounts ($20 billion in January of 1981). The rate of growth of M2 has been quite rapid over the last few weeks, as money market funds spurted by about $3 billion per week. Money market funds have added at least $30 billion to the broadly defined money supply (M2) so far this year, with current assets in excess of $120 billion. This will force the Federal Reserve to maintain tight credit to achieve their growth targets. In summary, if the expected demand for money will rise about 13% this year, and if the Fed keeps to its target rates of growth of 6 to 9% for the supply of money (M2), interest rates can only remain reasonably high.

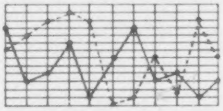
4. Interest rates have become much more erratic in 1980 and 1981 than they were in 1978 and 1979. This greater variability of interest rates for securities of all maturity lengths will tend to sustain high interest rates. Increased variation in interest rates results in a decreased demand for fixed-income securities, because of increased capital risk. Capital risk rises because of the increased uncertainty of the return on bonds at any particular point in time. Since the private sector must hold the entire quantity of fixed-income securities outstanding, the general level of interest rates rises to offset the higher risk of holding them.

5. Even if short-term rates subside somewhat, long-term rates are not likely to fall significantly because there is a huge backlog of unsold long-term bond issues waiting in the wings for rates to come down just a little. Investment bankers state that they are aware of many corporations anxious to sell large amounts of debt capital on the market as soon as long-term rates dip even slightly. Many issues also await sale in the tax-exempt market. This magnitude of prospective bond issues will sustain long rates throughout the rest of the year.

6. Implementation of the Financial Control Act of 1980 will continue to put upward pressures on interest rates. In addition to the more monetarist posture of the Federal Reserve implemented on October 6, 1979, and the new problems associated with reserve requirements on savings and loan associations and credit unions, there are changes in the financial structure that will force Federal Reserve-member financial intermediaries to increase their lending rates. Among them are the ability (and to remain competitive, the necessity) of paying interest on demand deposits. Another major cost factor for financial intermediaries is the new set of regulations that has the private financial sector rather than the Federal Reserve System absorbing the cost of "float".

For the reasons presented above, there may be some short-term rate drops during the coming year or two, but we would expect them to be blips in an otherwise stable or slightly upward trend to interest rates.

REAL OUTPUT



The unexpectedly high real growth rate for the first quarter of this year appears to be tapering off. Some forecasters are predicting a slump in the second quarter with an upturn at midyear, others feel the inertia of the first quarter will lead to positive growth throughout 1981, and some economists feel the second quarter will be flat, with an upturn at midyear. Clearly, the economy has slowed down from its torrid first quarter-growth pace, and the second quarter will be flatter in real terms than the first.

Our view of interest rates over the remainder of this year is more pessimistic than most, at least for calendar year 1981. For that reason, we expect that real growth rates in the second and third quarters of 1981 will be essentially flat, with an upturn in the fourth quarter. This outlook for real economic activity is not much different from the one we had last December except that the growth rates we projected then are delayed one quarter. It is unlikely that much real growth can appear in the economy until housing and automobiles turn around, and the prospects for higher levels of activity in these sectors are dim. If anything, the outlook for autos looks better than the outlook for residential housing. One of the factors that led to stronger-than-expected growth over the last two quarters of 1980 and the first quarter of 1981 was the higher-than-expected level of real personal income, due partly to realized capital gains on housing. The mortgage market crimp has slowed down the housing market, both new homes and the sales and refinancing of existing residences, so that this source of spendable funds is evaporating and should not add much further impetus to consumption spending in the near future.

Another reason that the upturn should not get underway until at least the third quarter of 1981 is the fact that the Reagan tax cuts are unlikely to be put into effect before the beginning of the next fiscal year, which starts October 1. Since consumer spending generally lags disposable personal income, the impetus of the new tax package on the growth rate of the economy will not be felt until late 1981, and possibly not until sometime in 1982.

Our current estimate for real growth of GNP for 1981:1 through 1981:4 is as follows:

Quarter	*Estimated Real Growth*
1981:1	8.7%
1981:2	1.0%
1981:3	0.5%
1981:4	1.0%

INFLATION

The basic rate of inflation is unchanged, recent reports notwithstanding. With the closely watched M1B measure of the money supply running ahead of the Fed's target, the inflation outlook is not promising.

The brief 1980 recession did ease the inflation rate, at least as recorded by the Consumer Price Index. From a rate of over 15% in the first three months of 1980, the CPI has fallen to single-digit figures. However, the increase in real economic activity over the last two quarters of 1980 and the first quarter of 1981 should continue to place upward pressures on the basic rate of inflation, if historical relationships continue to hold. As real expansion continues there is a delayed upward pressure on prices, at least as evidenced in most of the postwar expansions after 1965. These price pressures, however, should be relieved by the softness expected over the coming two or three quarters.

We have already discussed the upward bias of the CPI because it is base-weighted, and because changes in housing costs, particularly mortgage interest rates, have an undue effect on the CPI. Since housing prices are expected to rise at a rate slower than or equal to the basic rate of inflation, the rate of inflation as measured by the CPI may approach inflation as reflected in the implicit deflator, as we enter the third quarter of 1981. The Bureau of Labor Statistics is currently considering a modification of the CPI to reflect a broadly based rent index rather than the upward biased cost-of-housing index. If that happens, the growth rate of the CPI may slow because rents have not kept up with the overall cost of living as measured by the CPI. In this case we cool off inflation by administrative fiat!

Over the last few years, food and energy prices have tended to add to the basic rate of inflation rather than detract from it. However, energy prices at least may slow down the rate of inflation over the next two years. The worldwide glut of petroleum, due to a combination of worldwide recession, energy substitution away from petroleum products, and overproduction, has not yet led to a lowering of gas and oil prices at the consumer level. But the OPEC may be forced to cut crude oil prices to work off the surplus, and this should be reflected at least partially in lower consumer prices later on this year.

Last December we felt that agricultural prices would rise somewhere between 15 to 18%, due mainly to last summer's drought and to the fact that we were at the low point of the hog and beef cycles. Even with the recent Florida freeze that damaged vegetable and citrus crops, the outlook for food prices is less inflationary than it was six months ago. Cutbacks in pork and poultry production were less than expected, and will moderate the decline in beef supplies. Agricultural economists expect that food prices could be up 12 to 13%, on average, during 1981.

Factoring in somewhat lower energy prices and somewhat higher food prices, we expect the rate of inflation this year to run as follows:

Quarter	*Implicit Deflator*	*CPI*
1981:1	9.5%	10.0%
1981:2	9.5%	10.0%
1981:3	9.0%	9.5%
1981:4	8.9%	9.0%

EMPLOYMENT

The employment picture is essentially unchanged from our December 1980 outlook. At that time we felt that the unemployment rate would decline somewhat steadily from 8% in first quarter 1981 to 7% by year-end. Because of higher-than-expected growth of the economy in late 1980 and early 1981, the unemployment rate has remained at about 7.5%, even with the layoffs in the automobile industry and in construction. With almost flat growth expected through the third quarter of this year, the unemployment rate should rise somewhat, intensified by the layoffs of government employees at federal, state and local levels, as the Reagan belt tightening continues to impact on the labor market.

However, the labor force is growing more slowly than it has been in recent years, so that economic softness does not affect the overall unemployment rate as much as it did previously. The "natural" rate of unemployment has been rising secularly since the early 1960s, with the increased number of women and young people in the labor force. This "natural" unemployment rate at the present time is in the neighborhood of 6 to 6.5%. One of the factors that has driven up the unemployment rate somewhat in past years is the requirement that registration for unemployment is a prerequisite for receiving transfer payment incomes of various sorts. With these transfer payments drying up under the new administration, artificial unemployment may decline in the BLS accounts.

Our expection for unemployment rates this year runs as follows:

Quarter	*Percent Unemployment*
1981:1	7.4
1981:2	7.6
1981:3	7.8
1981:4	7.8

HOUSING

Last December we argued that high interest rates would keep housing starts down, and that in 1981 we would see about 1.4 million housing units started, with a low of 1.3 million starts in the first quarter (at a seasonally adjusted annual rate) rising to 1.5 million starts in the fourth quarter. This forecast now appears to be a bit optimistic. Housing starts were running at about 1.36 million units in the first quarter of this year, but the outlook for housing for the remainder of this year remains bleak. The effective rate of interest on conventional home mortgages has moved upward over each of the first three months of the year.

There currently are two major weaknesses in the housing market. One has to do with supply, and the other with demand, and both are caused by high rates of interest, which are expected to continue throughout the year.

On the supply side, the thrift institutions are experiencing as massive a withdrawal of savings deposits as they have ever had. For April of this year alone a record $4.6 billion in savings deposits left U.S. savings and loan associations, mostly in response to high rates of interest in the short-term money market. During the last few months, money market funds have been able to pay higher effective interest rates than commercial banks or other thrift institutions, and consequently have attracted record amounts of funds. An average of $2 to $3 billion has been pouring into these funds *per week* since early February, and by early May money market funds reported some $110 billion in assets, with continuing rapid growth. High interest rates have had a devastating effect on S&Ls, who provide the major portion of funds for residential housing. Last year was the least profitable year for savings and loan associations since the end of World War II, with returns on net assets averaging 0.1% the last half of the year. Over the same interval, 35% of federally insured associations were in the red.

Things have gotten worse so far this year. Back in the good old days, S&Ls received most of their deposit liabilities in the form of passbook accounts, and were subsidized to the extent that Regulation Q put ceilings of 5½% or lower on these accounts. At the present time, these institutions are paying competitive market rates on 60% of their deposits, so that, on average, S&Ls are paying 10% on their deposit liabilities and receiving 9.8% on their mortgage portfolios. This is clearly unprofitable! (What is surprising is that there was still $362 billion in 5¼% and 5½% passbook accounts outstanding in the U.S. as of the end of March!) The Federal Home Loan Bank Board estimates that over 60% of all associations are now operating in the red, and are continuing to deplete their net asset positions. Under present institutional constraints S&Ls and mutual savings banks cannot compete on an even basis with money

Table 1
HOME-OWNERSHIP COSTS

Component	*Rate of Increase*				
	1976	*1977*	*1978*	*1979*	*1980*
Home Ownership	5.5	6.9	10.9	15.5	19.7
House prices	5.1	6.6	9.6	13.4	14.0
Maintenance & repairs	−1.0	−1.7	5.9	12.7	18.6
Financing, Taxes & insurance	5.4	6.8	13.4	19.8	28.2

market funds, which do not need to maintain reserves against their deposit liabilities. They are also burdened by large portfolios of previously made low-interest-rate mortgages. The effect of these developments on the supply of loanable funds is obvious, and no turnabout is in sight. High interest rates have had a significant impact on the demand for housing. Prospective house-purchasers still suffer somewhat from money-illusion, and are currently balking at 14+% interest rates even though the real mortgage rate (adjusted for inflation) is not abnormally high. Of course, this was the case when the mortgage rate went from 5% to 6% in the early 1960s, and for later successive mortgage-rate jumps. However, at the present time the inflation in house prices is not keeping up with the mortgage rate or with the overall rate of inflation, so that housing in the future may not be the great inflation hedge it was in the past.

Demand is also being dampened as the result of acceleration in the costs of home ownership. The home-ownership component of the CPI rose nearly 20% last year, much faster than the CPI, so that relative cost of home ownership has been increasing. Table 1 shows what has been happening to home-ownership costs over the past five years. Obviously this increases the fringe of unsatisfied potential house purchasers because the rapid increase in ownership costs keeps many people from qualifying for loans. Real disposable incomes rose less than 1% last year, and a greater proportion of the population than ever before cannot afford to own a new home. The chief economist for the National Association of Homebuilders calculates that only about 6% of the households in the U.S. have sufficient income to qualify for an average-priced new house.

In earlier years, a large proportion of new home sales were to people who were "filtering up" in the housing market. They would use their increased equity in their old homes to purchase new more expensive houses, and the fact that house price inflation was greater than overall inflation led to this "upgrading" demand. This is not the case at the present time. Right now there are more than a million homes for sale, about 750,000 existing units and 336,000 new homes. As long as the average price increase of residential housing is quite a bit lower than the mortgage rate, and with the outlook for continued high mortgage rates, you must expect continued softness in the residential housing market.

The outlook for residential housing is bleak, and it's currently a Catch-22 situation. The only way the policymakers (mainly the Federal Reserve) can get the long-term rate of interest (including mortgage rates) down is to continue to battle inflation with stringent monetary policy. Tight money means continued financial disintermediation and chaos for the housing and mortgage markets. It's going to get worse before it gets better! The long awaited housing boom of the 1980s is going to have to wait a couple more years.

Here is our outlook for residential housing starts:

	Number of Housing Starts (at SAAR) (millions)
1981:1	1.36
1981:2	1.00
1981:3	1.00
1981:4	1.20

CONSUMER SPENDING

Much of the strength of the first quarter of this year came from consumer spending, particularly for automobiles, but it is unlikely that this spending will continue through the rest of the year. The major determinant of consumption spending is disposable personal income. There was a fairly sharp increase in wages and salaries in the first quarter, but it was almost completely offset by increased social security payments and tax bracket creep. Real incomes are almost certain to decline in the second quarter, so that consumption spending should flatten out considerably. The soft housing market should preclude consumer spending from capital gains generated through housing sales or money made available through refinancing existing housing.

On the basis of personal income, there is little reason to expect that consumer spending will be anything but flat in the second and third quarters and will begin to increase in the fourth quarter as the effects of the tax cuts are felt. There is currently debate about the nature of the tax cut, whether it will impact most on high income or low income individuals, to what extent transfer payment incomes will be affected, etc., but both parties in Congress appear committed to a tax cut and an expenditure cut of the magnitude that Reagan presented in his first months as President. However, these cuts will not affect 1981 economic activity much, except possibly in the fourth quarter. The major impact of the Reagan program will show up in 1982 and beyond.

The Conference Board provided a note of optimism with regard to consumption spending, when it announced that consumer confidence had scored impressive gains in the early spring. However, we don't put much faith in survey polls as leading indicators, since we consider them largely lagging indicators. We expect that consumption spending will be up somewhere between 0% and 1% in the second and third quarters of the year, with a 1 to 2% increase in real terms in the fourth quarter.

BUSINESS FIXED INVESTMENT

Outlays on plant and equipment are doing just about what we expected them to do last December; they are flat or negative for most sectors of the economy. Plant and equipment spending for 1980 increased about 5% in nominal terms, from $284.3 billion (SAAR) in fourth quarter 1979 to $299.6 billion in fourth quarter 1980. With industrial prices up a little over 10% last year, this means a 5% drop in real outlays in 1980. There is no indication that business fixed investment will increase until quite late this year, some time after the anticipated tax cut. We expect that business fixed investment will decline 1 to 2% in real terms over the first three quarters of 1981, flatten out in the fourth quarter, and turn positive in 1982, with a 3 to 4% rate of real growth next year.

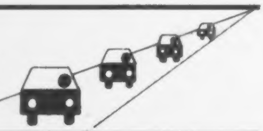
Real growth of capital spending in the U.S. has been negligible over the last nine years, and we can look forward to more of the same in 1981. Between 1972 and 1980, real growth of capital spending was about 11%, reflecting a little more than 1% rate of growth on the average over that interval. As a result, the industrial base of the U.S. is aging, and is not keeping up with the other major industrial countries. The estimated average age of plant and equipment in the U.S. is 17 years, which contrasts quite unfavorably with 12-year-old plant and equipment in West Germany, and 10-year-old productive facilities in Japan. Because of the uncertain economic climate and the erratic outlook for interest rates, U.S. firms have been unwilling to issue long-term debt capital, and, if they had, U.S. investors would have been unwilling to buy them. There have been much bigger wipeouts in the bond market over the last few years than in the stock market, and firms have had to rely increasingly on short-term liabilities to finance what little plant and equipment spending has been taking place. Between 1971 and 1975, a little over 31% of corporate debt in the U.S. was in short-term instruments. At the present time, almost 40% of total corporate debt is being held in short-term liabilities. Everyone is waiting for interest rates to come down before jumping into the long-term market, and it will be at least a year or a year and a half before this has much chance of happening.

Factory operating rates have been flat so far this year because industrial production has remained almost unchanged in real terms. The latest figures show industrial production for this year 3% below levels of one year ago. Excluding aircraft, new orders for durable goods show no sizeable growth. Factory orders fell in April, the first decline since last June. All the production data point to a flat economy, with continued flatness expected.

Nonresidential and nonbuilding construction (highways, bridges, etc.) contract awards usually lead actual construction activity by about one quarter, and high interest rates are having more or less the same impact on nonresidential activity as on housing. The F. W. Dodge index of aggregate construction awards (including housing) declined 13% in 1980 from 1979 levels. A peak in total construction awards was reached in November of 1980, and the latest figures for April show a decline of 18% from that November level.

Business fixed investment will be flat or falling slightly through most of this year but will begin a gradual pickup next year, when the tax package and its implications for business investment are more clearly spelled out.

AUTOMOBILES



Auto sales so far this year give a mixed picture. The total number of cars sold in March were at a little over an 11-million annual rate, a good increase from the 9.5-million annual rate of fourth quarter 1980. Then in early April, auto sales fell off again to a 6-million-car annual rate. Some of this decline was expected, since the rather extensive rebate programs of the big three ended on March 31. The rebates, however, did what they were intended to do, and that was to reduce inventories. The number of unsold cars in inventory declined by more than 20% in the first quarter of 1981, leaving domestic automakers with good inventory positions. However, the April slump appears to provide evidence that currently, just as in 1974, the big three have "borrowed" from future demand. The extent to which this has happened is still unknown, and the outlook for autos is murky indeed. Both Ford and General Motors recently raised prices on their 1981 models, and it is not clear how consumers will respond to them, or to the widespread knowledge that GM has acknowledged flawed workmanship in its new small cars.

There are two major factors that will affect sales of domestically produced autos this year and next. The first is the extent of the current gasoline glut and how long it will last, and the second is the reaction of Congress and the administration to Japanese imports of small cars.

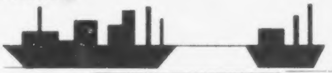
The problems of the automobile industry partly lie in Detroit and partly stem from actions in Washington, D.C. One can fault the big three for building big cars after the quadrupling of petroleum prices in 1973, when the U.S. public taste shifted to small fuel-efficient automobiles. One can also argue, as some have, that U.S. automobile producers gave in to the autoworkers' union, and passed generous wage increases on in higher car prices, so that U.S. auto workers make 50% higher salaries than the average U.S. manufacturing workers. (This contrasts strikingly with Japan, where auto workers get about 25% higher wages than those in overall manufacturing. This has allowed Japanese auto producers to have a $1,500 cost of production advantage over U.S. producers for each car on average they produce.) Part of the blame for the problems of the U.S. industry can be put on the government, which kept gasoline prices low (as compared to most other industrial countries) and fostered a way of life built around the large V-8 engine and the commuting patterns typified by Los Angeles.

The estimates of the duration of the gas glut and the prices at the pump that will result from it vary. There are forecasts of gas wars resembling those of the 1950s and early 1960s, but it is more likely that gas prices will remain stable or rise more slowly than they have been doing. We may see some actual price declines in the coming two or three quarters, but our guess is that people will rationally expect that the current glut is more or less a blip on an upward relative price trend for gasoline.

Here is our estimate for automobile sales this year:

	Millions of Units
1981:1	11.0
1981:2	8.0
1981:3	9.0
1981:4	9.4

NET EXPORTS



For the first time since 1976, the U.S. ran a surplus in its current account balance of payments. Rising petroleum prices kept the current account balance in the red between 1977 and 1979, when the deficits ran to $14.1 billion, $14.3 billion and $.705 billion in 1977, 1978 and 1979, respectively. The surplus last year was $.118 billion, small but positive. It was mainly due to the strength of U.S. exports, which held up in spite of the recession in the rest of the world, and partly due to the brief 1980 U.S. recession, which held our demand for imports down.

The small surplus in the current account consists of two offsetting sets of flows. We ran about a $9 billion deficit in our merchandise trade account but had a surplus of about $10 billion in our trade services account. To estimate the current account trade balance for 1981 and 1982 we have to look at each of these items separately. We expect that they will move in opposite directions in the coming two years.

The deficit in the merchandise trade account is strongly affected by the price and quantity of imported petroleum. The sharp increases in oil prices that took place in 1979 and early 1980 are beginning to reverse themselves, and the current "official" OPEC minimum price for crude of $36 per barrel is being undercut by the Saudis, who are keeping production up at over 10-million barrels per day. Overproduction, for the most part engineered by Saudi Arabia, coupled with recession and substitution-induced declines in world demand for petroleum, have led to a 3-million-barrel-a-day surplus. Popular opinion has it that the OPEC is a cartel, which colludes to produce the profit-maximizing output for the cartel as a whole, and sets prices to clear the market of that monopoly output. Over the last couple of years, the OPEC has not operated as a true cartel in this fashion. Rather, it has taken on the characteristics of a price-leader price-follower market situation, with the Saudis taking the position as the dominant firm price leader. The Saudi Arabian oil minister recently announced that the Saudis had engineered the glut of crude on the current world market, and were using the glut to stabilize the world price of oil. This is consistent with their recent actions in their self-designated role as price leader for the OPEC. How long this glut will last is anyone's guess, but if the Saudis keep production up at over 10 million barrels a day, the collapse of the OPEC price structure we have recently seen will continue. Our best guess is that the glut will continue into late 1981 or early 1982 and will put downward pressures on energy prices at the retail level later this year and early next year.

Another likely event that will act to improve the U.S. merchandise trade balance is the lifting of the trade embargo on feed grains to the Soviet Union. This will increase our total exports, even though the pattern of total world trade in feed grains will not change significantly.

Even though the merchandise trade balance should improve this year and next, there will be some offsetting effects in the net exports of services. We have always run surpluses in the service component of the current trade account. One of our strengths in this sector has been banking. A quarter of a century ago, U.S. banks dominated world finance, but over the last few years we have been losing our competitive edge. In 1957, well over half of the 50 biggest banks in the world were U.S. institutions. By 1979 only 95 banks, or less than 20 percent of the "Banking 500", were American banks. Japanese, British and West German banks each do a bigger share of the world's banking business than do U.S. banks.

What is even more troubling than the magnitude of banking services is the direction they are taking. As a broad generalization, U.S. banks have looked toward the developing economies for their expansions, while foreign banks have been concentrating on expanding their activities in the U.S. In 1979, foreign banks made 7.9% of all new commercial loans in this country. By 1980, total U.S. commercial loans made by overseas banks rose to $38.7 billion, 13% of total U.S. commercial loans of a little less than $300 billion. In the last 8 years the number of foreign banks in the U.S. tripled, and their deposits rose by a multiple of six. This will tend to increase the deficit in the service component of the trade balance, since these banks attract deposits that would have otherwise gone to U.S. banks. Also, since they send their profits back to their home countries, they will erode our overall balance of payments position through a deterioration in our balance on capital account.

U.S. banks have become increasingly involved in loans to the developing world, and some economists feel that American financial institutions are walking on quicksand. Many of these countries to which U.S. banks have made loans are petroleum-poor areas, and are forced to import a large proportion of their energy needs. Coupled with this is an acute strain put on them by high interest rates. The payments they must make for oil imports and for interest charges on their existing debts cannot be made in their own currencies, and they have had to borrow dollars, and to some extent, British pounds and West German marks. Double-digit interest rates have put many countries in a very tight bind to their lenders, and these lenders are in large measure American banks. For example, Brazil currently has to pay 77% of its export earnings on oil imports and on interest payments on its foreign debts; for Turkey it is 76%; and for Chile the percent of export earnings needed for petroleum imports and debt servicing runs to 54%. This does not leave much left to finance the total import needs of many of these countries, or to reduce the principle on the external debts already owed. High U.S. interest rates are reflected in high borrowing costs, which tend to add to the critical problems of some developing countries. The total debt position of underdeveloped countries has risen drastically in the last eight years, from $100 billion in 1973 to an estimated $550 billion in 1981. U.S. banks' exposure in loans to these countries is large; in 1979, American banks had loans outstanding to developing countries (excluding those that are oil exporters) that amounted to 176% of their total bank capital. Bunker Hunt expressed the problem well when he was questioned in regard to his financing of silver futures. He said, "When you owe the bank a million dollars and you can't pay it, you have a problem. But when you owe the bank a billion dollars and you can't pay it, *they* have a problem." We may not see the scenario from Paul Erdman's *Crash of 79*, but the problem of international liquidity is too serious to be ignored.

In summary, the net export position of the U.S. should be positive throughout 1981 and 1982, with total exports exceeding total imports by $30 billion in 1981 and by about $33 billion in 1982.

The Indiana Economy

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1980 Overview

Despite a robust recovery for the nation in the last quarter of 1980, the full year was one of poor economic performance in the Hoosier state. Indiana's total personal income (not adjusted for inflation) showed a gain of 5.9% for 1980. This was the second lowest increase in the entire nation. (Michigan was at the bottom with a 5.3% increase; the nation averaged 10.7%.) Only Michigan and Indiana showed an absolute decline in earned income in the manufacturing sector (–0.6% for Indiana and –3.5% for Michigan, contrasted with 6.4% nationally). Added to the manufacturing decline was a drop of 26% in labor and proprietors' income on the state's farms compared to a 20.6% decline nationally. Contract construction, which adds more income to Indiana annually than farming, declined by 6.5% in 1980 despite a 4.4% increase across the nation. The only area in which Indiana's earned income exceeded the growth rate nationally was in Federal civilian employment. See Table 1.

1981 Forecast

Based on the national forecast appearing on earlier pages in this issue, the forecast for Indiana shows that there will be continued improvement in the Indiana economy during the next two years. That progress will not be dramatic, but is a clear indication that the worst of the 1979-80 recession for Indiana is at an end.

The Econometric Model of Indiana (EMI), developed and maintained by the Indiana University School of Business, forecasts a 4.3% increase in personal income (after adjustment for inflation) from the last quarter of 1980 to the last quarter of 1981. This real growth contrasts with a 0.7% decline from the end of 1978 to the close of 1979 and a 2.0% decline from the fourth quarter of 1979 to the last quarter of 1980.

Figure 1 indicates that the decline of 1974-75 was equal in length to the five quarter recession of 1979-80 for Indiana. The latter recession was somewhat more severe. In 1974-75, real personal income fell by 6.1%; in the recent recession the decline was close to 6.6%. The climb back took five quarters in 1975 and 1976; EMI is forecasting that recovery of 1981-82 will take six quarters. It will be in the fourth quarter of 1981, according to the I.U. model, before the state's real personal income returns to its previous peak, achieved in the first quarter of 1979.

This recovery of the Indiana economy is seen in the improved employment in the state's dominant manufacturing sector and continued growth of other, faster growing segments of the state's economy. See Table 2. From the first quarter of 1981 to the same quarter next year, EMI is forecasting a growth of nearly 56,000 jobs in Indiana. We are hard pressed to explain some aspects of this forecast. For example, given the current federal and state financing trends, we find it hard to accept the model's forecast of a growth of 8,140 jobs in the government sector. The basic forecast presented here is predicated on past relationships. EMI, at present, does not include state and local responses to the proposals under discussion in the Congress. Hence, the forecasted increase for government may be taken as a base line from which policy changes will bring a deviation. A decreased outlook for contract construction, however, is understandable given the high rates of interest prevailing recently. This sector tends to lag since construction decisions depend on financing costs and there is considerable lead time between the commitment to build and the actual employment of labor.

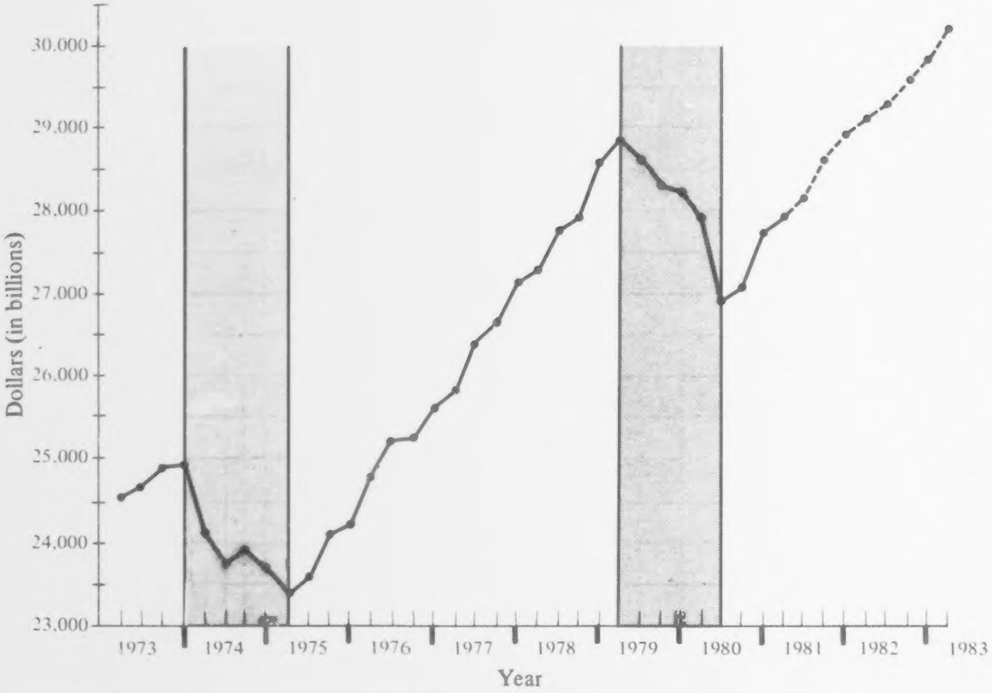
Total personal income for Indiana (unadjusted for inflation), which is the usual measure accepted as the basis for government revenue forecasting and projections of business activity, is expected to rise by $7.3 billion from the first quarter of 1981 to the first quarter of 1982. This 13.9% increase will contrast with a 9.3% increase in the preceding year. Thus, government revenues that are dependent on the dollar volume of the state's economy should be improved in the year ahead. Table 3 presents a summary of the latest forecast from the Econometric Model of Indiana. In the following pages, independent assessments of the regional performance of the state are offered.

Table 1
PERCENT CHANGE IN SELECTED SHARES OF PERSONAL INCOME, 1979-80

	United States	*Great Lakes*	*Indiana*
Total personal income	10.7	7.8	5.9
Labor and proprietors' income of persons engaged in production*			
Total	8.2	4.1	1.8
Farm	–20.6	–28.6	–26.0
Mining	15.3	4.6	.2
Contract construction	4.4	– .4	– 6.5
Manufacturing	6.4	.8	– .6
Wholesale and retail trade	9.1	6.3	5.2
Finance, insurance, and real estate	14.0	11.8	10.8
Transportation, communication and public utilities	9.4	5.2	.5
Services	13.1	11.1	10.1
Other	5.5	4.8	5.9
Government			
Federal civilian	7.6	8.3	12.0
Federal military	9.2	7.9	7.4
State and local	7.1	7.2	5.1

*Consists of wage and salary disbursements, other labor income, and proprietors' income.

Figure 1
REAL PERSONAL INCOME, INDIANA



Quarterly data at seasonally adjusted annual rate

Table 2
EMI FORECAST OF INDIANA EMPLOYMENT CHANGES
1981:1 to 1982:2

	Number (thousands)	*Percent*
Manufacturing	17.16	2.6
Contract construction	– 4.15	–5.4
Wholesale trade	1.17	1.1
Retail trade	21.42	6.0
Finance, insurance, real estate	5.97	5.9
Government	8.14	2.3
Other privately employed	5.88	.9
Total Employed	55.49	2.4

Table 3
EMI SUMMARY VARIABLES

Variable	*1980:4*	*1981:1*	*1981:2*	*1981:3*	*1981:4*	*1982:1*	*1982:2*	*1982:3*	*1982:4*	*1983:1*
Personal Income*	51,331.00	52,691.48	54,526.75	56,457.18	58,373.98	60,014.07	61,703.22	63,406.18	65,539.31	67,719.79
Percent Change	5.09	2.65	3.48	3.54	3.40	2.81	2.81	2.76	3.36	3.33
Real Personal Income*	27,761.49	27,967.87	28,266.85	28,629.40	28,955.35	29,147.19	29,340.57	29,532.45	29,885.69	30,245.55
Percent Change	2.86	.74	1.07	1.28	1.14	.66	.66	.65	1.20	1.20
Wage & Salary Disbursements*	32,234.00	32,835.01	33,873.92	34,854.86	36,112.75	37,262.36	38,284.09	39,062.77	40,478.76	42,074.52
Percent Change	6.97	1.86	3.16	2.90	3.61	3.18	2.74	2.03	3.63	3.94
Real Wage & Salary Disbursements*	17,433.21	17,428.35	17,560.37	17,674.96	17,913.05	18,097.32	18,204.54	18,194.16	18,458.32	18,791.64
Percent Change	4.54	−.03	.76	.65	1.35	1.03	.59	−.06	1.45	1.81
Nonmanufacturing Employment	1,488.03	1,444.27	1,484.93	1,501.42	1,510.50	1,480.62	1,527.16	1,538.49	1,548.25	1,520.19
Manufacturing Employment	657.83	658.77	673.82	680.98	680.44	675.93	686.74	692.14	692.70	694.74
Establishment Employment	2,145.87	2,103.07	2,158.74	2,182.40	2,190.94	2,156.55	2,213.90	2,230.63	2,240.95	2,214.92
Total Number Employed	2,374.55	2,311.81	2,389.01	2,414.38	2,409.57	2,367.30	2,444.41	2,463.77	2,462.07	2,428.10
Percent Unemployment nsa	8.50	9.57	9.29	8.84	8.46	9.62	9.57	9.25	8.18	8.64
Percent Unemployment sa	8.95	8.39	9.63	9.34	8.90	8.44	9.92	9.78	8.61	7.58

1981:1 values are preliminary
* = Millions of dollars
#= thousands of persons, not seasonally adjusted
nsa = not seasonally adjusted
sa = seasonally adjusted

INDIANAPOLIS

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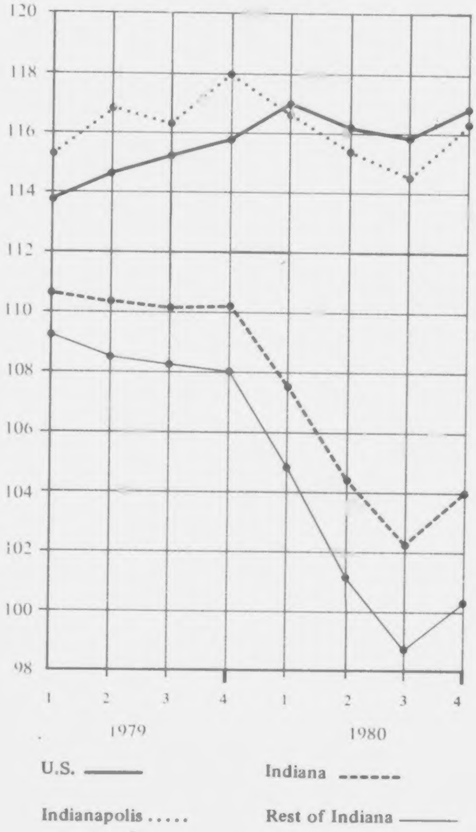
Although Indianapolis is a part of Indiana, its economy has performed more like the national economy. This point is important at a time when the automobile industry is undergoing transition. The evidence to support this point is provided in Figure 1, which shows the change in total employment for the Indianapolis metropolitan area relative to the rest of Indiana, Indiana in total, and the U.S. The figure shows that at the end of 1980, the Indianapolis metropolitan area and the U.S. had experienced similar increases in employment since the business cycle peak in November 1973. However, the rest of Indiana began 1979 at a lower level than Indianapolis and the U.S. and was more severely impacted by the 1979-80 recession.

Figure 2 shows the change in total manufacturing employment for the Indianapolis metropolitan area relative to the rest of Indiana, Indiana in total, and the U.S. The figure shows that at the beginning of 1979 Indianapolis was slightly above its 1973 level while the state was slightly below. However, the 1979-80 recession impacted more severely on the rest-of-Indiana manufacturing sector than on the Indianapolis manufacturing sector. In addition, the Indianapolis economy is less dependent on manufacturing than the rest of the state. In the fourth quarter of 1980, 23% of employment in Indianapolis was in manufacturing. The manufacturing employment figure for the rest of the state was 33%–a difference that contributes significantly to the greater stability of the Indianapolis economy.

Figure 1
CHANGE IN TOTAL EMPLOYMENT
BY QUARTER, 1979-80
Using seasonally adjusted index numbers
(November 1973 = 100)

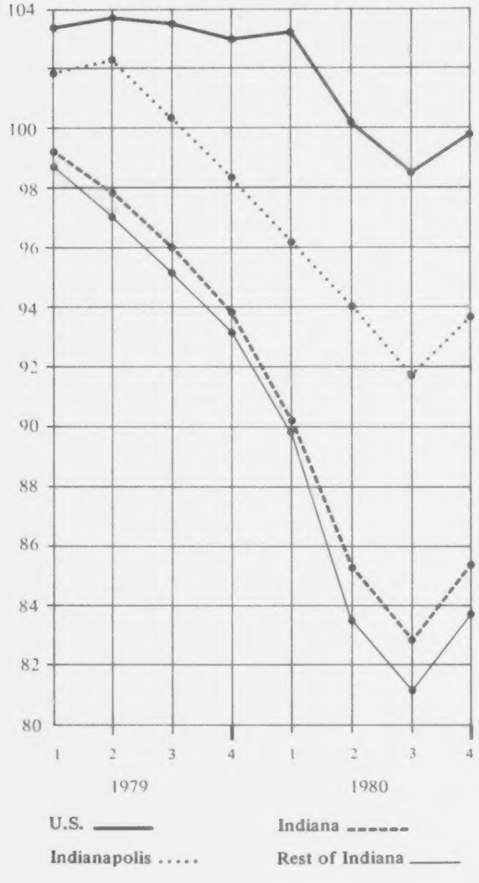


In what industries has employment expansion been occurring? Table 1 shows employment change by selected industries, 1973:4-1980:4, for the Indianapolis metropolitan area (Marion County and the seven contiguous counties).

Manufacturing–Autos

The auto industry is undergoing both cyclical and structural change, although it is too early

Figure 2
CHANGE IN TOTAL MANUFACTURING EMPLOYMENT BY QUARTER, 1979-80
Using seasonally adjusted index numbers
(November 1973 = 100)



to determine how much of the change is cyclical and how much is structural. However, the increased competitive forces in the industry are inducing cost-cutting measures that typically involve the substitution of capital for labor. Therefore, to focus only on employment figures tends to overstate the impact of the contraction of the auto industry on the Indianapolis economy. The industry is undergoing a significant retooling that generates income and employment for a variety of Indianapolis-based capital-goods industries.

Nonmanufacturing

In the nonmanufacturing sector, the relatively small change in construction reflects the fact that 1973 was a boom year for housing and 1980 was a year of volatile interest rates that impacted negatively on housing. The most significant performer in the nonmanufacturing sector is services; its rate of increase was almost double the manufacturing sector rate and almost triple the total nonagricultural rate. The services industries include motels and hotels, hospitals, advertising agencies, data processing firms, amusements, repair shops, as well as legal and personal services. The relative increase in services employment reflects a combination of demand and supply factors. On the demand side, many services have positive and high income elasticities of demand (when income increases by 10%, there is a percentage increase

Table 1
CHANGE IN EMPLOYMENT
1973:4-1980:4
INDIANAPOLIS METROPOLITAN AREA*

Selected industries	*Percent change 1973:4-1980:4*
Total nonagricultural employment	+16.6
Manufacturing	– 6.2
Durable goods	– 7.5
Autos	–33.3
Nondurable goods	– 3.2
Nonmanufacturing	+25.7
Construction	+ 4.9
Retail trade	+23.0
Trans., Comm., Pub. Util., and Wholesale trade	+20.3
Finance, Insurance, and Real Estate	+25.8
Services	+47.0
Government	+20.0

*Seasonally-adjusted establishment employment in quantity consumed, and the increase may exceed 10%); on the supply side, many services are labor intensive and exhibit a low rate of measurable productivity increase. Therefore, given an increase in demand for services, there tends to be a large employment effect. Also, firms providing various services tend to cluster in urban areas to take advantage of economies of agglomeration in both production and marketing. Indianapolis, the place of highest order in the Indiana urban hierarchy, provides these agglomeration economies.

Table 2
PERCENT CHANGE
POPULATION AND HOUSING UNITS
EIGHT MIDWESTERN METROPOLITAN AREAS,
1970-80

Metropolitan area (ranked by population size)	*Population (percent change)*	*Housing units (percent change)*
Chicago, IL	1.8	15.1
Detroit, MI	–1.9	13.8
St. Louis, MO	–2.3	12.3
Cincinnati, OH	1.0	17.1
Indianapolis, IN	**5.0**	**22.0**
Columbus, OH	7.4	29.2
Louisville, KY	4.5	22.5
Dayton, OH	–2.6	17.3

Population and Housing

How well did the Indianapolis metropolitan area perform during the past decade relative to other large metropolitan areas in the region? In terms of growth of population and construction of housing units, Indianapolis fared well as shown in Table 2. Only Columbus had a greater rate of increase in both population and housing units than Indianapolis. Also, with the exception of Dayton, which experienced some significant losses in its economic base, there appears to be a size factor favoring the intermediate-sized metropolitan areas over the larger ones.

Population change and housing growth varied across the Indianapolis metropolitan area as illustrated in Table 3. Although Marion County's share declined in both population and housing units, the decline in percentage points was greater for population than for housing units suggesting that Marion County's appeal was relatively stronger for the smaller households–the singles, the separated, and the divorced.

The Future

It appears that Indianapolis's performance will reflect more closely the national economy than the rest of Indiana's economy. In one sense, to analyze the economy in terms of durables,

Table 3
PERCENT CHANGE IN POPULATION AND HOUSING UNITS
BY COUNTY WITHIN THE INDIANAPOLIS METROPOLITAN AREA
1970-1980

County	*Population* (percent change, 1970-80)	*Housing* (percent change, 1970-80)	*Population* (percent distribution) *1980*	*Housing* (percent distribution) *1980*	*Change in housing stock, 1970-80 (percent distribution)*
Boone	18.1	30.5	3.1	3.0	3.9
Hamilton	51.1	68.1	7.0	6.5	14.5
Hancock	25.2	35.1	3.8	3.4	4.8
Hendricks	29.3	41.4	6.0	5.2	8.5
Johnson	26.3	46.8	6.6	6.0	10.6
Marion	– 3.6	14.9	65.6	68.6	49.3
Morgan	17.7	33.2	4.5	4.0	5.6
Shelby	5.5	18.3	3.4	3.3	2.8
Entire metro area	5.0	22.0	100.0	100.0	100.0

nondurables, and manufacturing is obsolete. A more useful analytical framework would focus on the knowledge producers and distributors, such as the scientific and technical workers at Bell Telephone Laboratories and the Naval Avionics Center, and the educators at the several academic institutions in Indianapolis; the public information and communication disseminators such as those working in the print and telecommunications industries; the information gatherers and processors, such as those employed in the insurance industry and firms like Anacomp; and the information machine workers, such as those employed at RCA producing video discs. Also this alternative framework would focus on workers at high-technology firms such as Eli Lilly, Cybotech (a joint venture between Ransburg and Renault), and American Monitor (automated blood analyzers). Although the automobile industry will continue to play a very important role in the Indianapolis economy in terms of income generated, it is the information-related and high technology-oriented firms that will provide the more stable base for employment and job creation.

KOKOMO–MARION

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Despite all the talk about the gloom and doom and one-two punches of the auto slump and the national recession of 1980, the economy of the North Central region of Indiana has not only survived the worst recession, but it is also bouncing like a baby recovering from a severe bout with flu. The year 1980 will be long remembered for its deep and widespread economic slowdown. The reassuring news, however, is that the recent statistics on the economy are encouraging. The signs of recovery are evident and the worst is behind now.

The Good News

The sector that did the most damage last year—automobiles—is already riding on the recovery path. Significant increases in auto sales, brought about by rebates and consumer confidence, have caused auto manufacturers and auto-related industries to call back their laid-off workers. For example, a significant number of laid-off workers have returned to work at Delco and Chrysler plants in Kokomo, and Fisher Body and General Tire and Rubber plants in Marion. Delco Electronics in Kokomo not only has recalled all of its laid-off workers, but also has hired new workers and resumed overtime work. Currently, Delco is employing 11,750 workers, the largest number of workers employed by any single plant in the North Central region.

In addition to the auto-related recalls, nearly 55 NPISCO workers in Peru and Logansport have returned to work after settling their eight-month old strike. Also, in Marion, nearly 160 jobs were saved at the General Tire Reinforced Plastic Plant after workers agreed to a $1.50 per hour cut in pay. The management has pledged to expand the labor force in 12 to 18 months.

As can be seen from Table 1, worker recalls, new hirings, and reduced labor force have caused unemployment rates to drop sharply from their highs reached in 1980.

Other positive developments in recent months include the following:

1. The off-again, on-again air service between Kokomo and Chicago is on again! Kokomo's Direct Service has begun its air-service to Chicago.
2. New plant expansion plans of Elco Industries Inc. in Logansport, Kofabco in Peru, FMC in Tipton, and Cabot Corporation in Kokomo have assured future growth and economic stability for the region.

Table 1
UNEMPLOYMENT RATES IN NORTH CENTRAL INDIANA,
JANUARY - MARCH, 1980-81

	January		*February*		*March*	
County	*1980*	*1981*	*1980*	*1981*	*1980*	*1981*
Carroll	5.9	6.9	6.4	7.5	6.1	6.7
Cass	11.4	9.4	11.2	10.2	10.7	9.8
Clinton	7.7	9.0	10.8	8.9	9.7	9.5
Grant	11.3	11.6	11.5	12.4	11.8	11.4
Howard	14.2	10.0	13.9	13.0	14.0	12.9
Miami	11.8	8.7	10.7	9.6	10.5	9.0
Tipton	10.5	10.5	10.7	12.3	9.7	11.8

3. K-Mart opened its second store in Kokomo and created jobs for 70 people. Plans are underway to open two new restaurants in Kokomo, employing nearly 200 people, and to construct an office building in that city's downtown area.

4. Tipton's FMC Fire Apparatus plant received a $37-million order from Manila, Philippines. The plant will boost its payroll in the near future.

5. The monthly survey in Kokomo has shown a slowdown in the rise of prices of 25 grocery items. In addition, the quarterly business outlook survey, conducted by Dr. Naga Pulikonda of IUK, shows that local manufacturers, home builders, and retailers in Kokomo are more optimistic and enthusiastic about the economic future than before.

6. The city of Marion adopted a new tax break policy to lure new industries to the area.

The Bad News:

1. Although many workers have been recalled at various plants, nearly 3,100 workers at Chrysler's transmission and casting plants in Kokomo, and 400 workers at General Tire and Rubber Company's plant in Marion are without jobs. The future of General Tire and Rubber Company's plant in Wabash is very uncertain.

2. The housing sector battered by painfully high mortgage rates, has not recovered well from its lows in 1980. There are still more sellers than buyers in the housing market. Jobs are hard to find in the construction business.

3. The city of Kokomo lost 169 jobs because of the closings of Libby's tomato canning plant, Wasson's clothing store, and Holsum's bakery. Because of the termination of Indiana's home weatherization program, 24 people in Marion and 42 people in Kokomo lost their jobs in January. In addition, because of President Reagan's proposed cutbacks in federal government spending, 80 CETA workers in Kokomo, 100 in Marion, and 36 in Logansport will lose their jobs in October.

4. In fiscal year 1982, the North Central region will likely lose at least $100 million in various federal government expenditures. These losses will have adverse ripple effects on the economy. Similarly, various proposed cuts in federal spending will adversely affect plans to revitalize the declining areas in the region. Reagan's plans to abolish the EDA will jeopardize the plans of two large establishments to acquire low interest loans from the EDA to construct new or to expand and modernize existing production facilities.

Near-Term Outlook

Is the economy heading for good times or bad times? Definitely good times! Despite the fears of softness in the nation's economy, high mortgage rates, and adverse instant effects of Reagan's proposed budget cuts, things are looking good for the North Central region. Because of various plant expansion programs, openings of new plants or businesses, more auto-worker recalls, resumption of overtime work, and the general aura of confidence, the stage is set for a brighter outlook for the remaining six months of 1981. Now that many workers have been recalled, auto dealers, retailers, grocery store owners, restaurants, fast food businesses, and furniture and home furnishing stores should look for better times. The housing market will, however, remain sluggish.

RICHMOND

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Indiana University East

The economic performance of Richmond is highly sensitive to changes in the national economy. As the current slowdown continues in an environment of high interest rates and uncertainty, its immediate effects are felt on durable goods manufacturing, construction, and transportation equipment. Manufacturing employment, for example, continues to have scattered recalls and layoffs, which have been primarily in electrical machinery, equipment and supplies, primary metal industries, and nonelectrical machinery. Since one of every two jobs in the local area is in manufacturing, unemployment continues to be high. The current unemployment rate is 12.3%, and, although nonmanufacturing employment is expected to follow normal seasonal patterns, there is not going to be a perceptible improvement on the employment front for the immediate short-term outlook.

On the financial front, a quiet erosion of savings in local institutions is taking place. The allure of high-interest earnings is prompting savers to withdraw their assets from local depository institutions and invest them in money market funds. Consequently, community decapitalization is inevitable as savers actively attempt to hedge against inflation. Such decapitalization will undoubtedly have adverse effects on construction and investment activities and might also perpetuate the current economic slowdown in the Richmond area economy.

Area farmers can expect a drop in corn prices because of improved moisture conditions and excess stocks of feed grain. The lifting of the grain embargo to the Soviet Union will not provide much short-term help. Furthermore, the net income of dairy farmers will come under pressure because of their high costs of operation. Soybean growers can expect steady prices.

Overall, as conditions improve at the national level—improvement that is intricately tied to the President's economic program—I expect the local economy to show some improvement. However, the prognosis for a quick rebound is not encouraging.

SOUTH BEND–ELKHART

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The South Bend and Elkhart areas continue to bear the burden of prolonged recession that began in mid-1979 with depressed conditions in the durable goods manufacturing sectors of the local economies. Data from the most recent months suggest that nonmanufacturing activity—which had initially held up in the face of recession—has given way to the overall sluggishness in business activity and has followed in the decline. This has been particularly true in the trade and service components of the nonmanufacturing sector.

Tables 1 and 2 give various indicators of local economic activity for the South Bend and Elkhart communities. The figures contained in the tables are seasonally adjusted and, with the exception of the unemployment rates, are index numbers expressed as a percentage of 1967 base year values. In each table, comparative index numbers are averaged for the years 1979 and 1980. Index numbers are also given for a February 1980 to February 1981 comparison.

Table 1

SELECTED INDICATORS FOR SOUTH BEND

(Seasonally adjusted: 1967 = 100)

Indicator	*Average 1979*	*Average 1980*	*Feb. 1980*	*Feb. 1981*	*Percentage Change Feb. 1980-Feb. 1981*
Industrial electricity[1]	125.5	123.1	135.5	120.9	−10.8
Natural gas sales[1]					
Commercial	144.0	140.9	135.8	135.8	0
Industrial	98.5	88.3	80.7	81.0	.4
Employment data[2]					
Nonagricultural employment	122.8	120.7	122.8	114.3	− 6.9
Manufacturing employment	95.8	89.3	91.1	78.2	−14.2
Nonmanufacturing employment	139.6	140.2	142.1	133.1	− 6.3
Help wanted index	129.4	81.7	95.8	74.0	−22.8
Unemployment rate[2] (% of work force)	6.1	9.2	7.9	8.8	–
New passenger car sales[2]	119.9	93.2	105.9	81.8	−22.8
New truck sales[2]	241.2	138.0	163.1	87.0	−46.7
Estimated value of new housing permits[3]	376.2	148.4	247.2	147.6	−40.3
Number of new housing permits issued[3]	108.2	55.9	106.9	59.0	−44.8
Average value per new housing permit[3]	287.2	317.9	285.6	316.4	10.8

[1] South Bend.

[2] South Bend SMSA (St. Joseph and Marshall Counties).

[3] St. Joseph County excluding the cities of South Bend and Mishawaka.

SOURCE: Bureau of Business and Economic Research, Indiana University at South Bend.

Table 2
SELECTED INDICATORS FOR THE ELKHART AREA
(Seasonally adjusted: 1967 = 100)

Indicator	*Average 1979*	*Average 1980*	*Feb. 1980*	*Feb. 1981*	*Percentage Change Feb. 1980 - Feb. 1981*
Industrial electricity sales[1]	162.3	158.0	170.9	155.3	– 9.1
Natural gas sales[1]					
Commercial	168.8	167.8	155.0	162.6	4.9
Industrial	262.6	255.2	229.1	302.9	32.2
Employment data[2]					
Nonagricultural employment	150.7	141.7	148.3	131.4	–11.4
Manufacturing employment	139.2	126.6	135.3	113.0	–16.5
Nonmanufacturing employment	270.5	265.3	271.6	254.9	– 6.1
Unemployment rate[2] (% of work force)	7.8	12.2	9.2	8.5	–
Construction data[3]*					
Estimated value of new housing permits	246.8	93.1	140.9	168.3	19.4
Number of new housing permits issued	118.0	44.1	54.9	36.9	–32.8
Average value per new housing permit	219.5	205.2	198.6	309.4	55.8

[1] City of Elkhart.
[2] Elkhart SMSA.
[3] Elkhart County excluding the cities of Elkhart and Goshen.
*All construction data has base year 1970 = 100.

SOURCE: Bureau of Business and Economic Research, Indiana University at South Bend.

South Bend Nearly every indicator of local activity reported in Table 1 reflects the decline in the local economy. Twenty-one of twenty-six comparisons show negative change. The prolonged nature of the recession is highlighted by the fact that all but two of the 1980 indicators were exceeded by comparable 1979 figures. In the two-year (February 1979 to February 1981) period, the manufacturing employment index was down 18%, car sales were down 36%, and new housing permits issued were off 52%. Nonmanufacturing employment–up over 5% from 1979 to 1980–dropped 6.3% from February 1980 to February 1981. Of particular concern is the fact that some 6,000 individuals of the total employed in early 1979 were no longer recorded as members of the work force in the February 1981 statistics. The extended duration of the recession adds this worrisome dimension to the problem.

Elkhart As with South Bend, the vast majority of Elkhart indicators in Table 2 show negative change. The recession began earlier in Elkhart and, in many respects, has been more severe than in its neighboring community. The official unemployment rate peaked in the spring of 1980 at 16.1%, but recent declines to less than 10% disguise the fact that some 9,000 workers have left the recorded work force in the past two years. In addition, industrial electricity sales are off 15% and the number of new housing permits issued dropped 53% from February 1979 to February 1981.

Outlook Given the general consensus of forecasters predicting slow recovery and growth in the national economy for the remainder of 1981–and the suggestion that conditions will improve even slower in auto and auto-related industries–it appears likely that South Bend and Elkhart will continue to experience locally depressed economic forces during much of 1981. Should interest rates moderate nationally toward the end of 1981, however, these communities will benefit from increased activity in housing and the interest-rate-sensitive durable goods manufacturing sector.

EVANSVILLE

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After a short but deep recession in the second and third quarters of 1980, the Evansville economy bounced back with a modest recovery in the fourth quarter of 1980 and the first quarter of 1981. Based on the Evansville Area Business Index, the composite index that measures overall performance, the regional economy rose from a trough of 103.24 in the second quarter of 1980 to 105.22 in the fourth quarter of 1980 and to an estimated level of 108.17 in the first quarter of 1981. That is, by the first quarter 1981 the regional economy regained the prerecession level that prevailed exactly a year ago. In other words, the Evansville economy has fully recovered from the 1980 recession at least in terms of its overall performance. The future course of the regional economy is at this time expected to show little to no improvement in the second quarter, but the situation could be much improved in the second half of 1981.

However, the degrees of recovery in various sectors of the regional economy have not been uniform. In general, the manufacturing sector has restored all its ground lost during the recession. The employment level in the 1981 first quarter was slightly below the level of a year ago and not much improvement is in sight for the remainder of the year. The seasonally adjusted unemployment rate registered 7.6% in March 1981; it is below the state unemployment level, but it is above the national level. The trade and service activities, especially trade, have recovered about one half to two thirds of the loss from recession. Transportation and financial sectors also recovered about one half of the recession loss. The only exception to the above is the construction sector. In residential construction, low activity caused by high mortgage rates has continued since 1979, and there is no reversing trend in sight yet. But business construction, both industrial and commercial, has more than offset the loss in residential construction, even during the 1980 recession. Consequently the construction index has remained high since 1979. The strength of business construction has been based on construction projects related to Riverview Commerce Center, three major local hospitals, industrial firms such as Mead Johnson, and the Eastland Mall.

The Evansville economy has not been hit hard by the decline of the automobile industry, although this region has two major automobile-

EVANSVILLE AREA BUSINESS INDEX (1977 = 100, Revised)

	Industrial production	Trade & services	Construction	Transportation	Finance	Employment	Composite index
Monthly							
1980							
September	107.70	105.06	105.01	99.41	103.02	104.00	105.40
October	105.34	103.00	106.36	100.02	103.54	104.71	104.13
November	109.98	101.72	108.71	96.48	102.01	105.21	105.26
December	110.64	103.86	115.67	99.47	101.39	105.87	107.11
1981							
January	116.77	103.41	116.45	105.29	102.64	106.84	109.62
February	113.19	104.88	110.21	101.54	99.97	105.36	107.84
Quarterly							
1980							
1	113.24	105.58	107.72	106.78	107.00	106.66	108.62
2	100.91	102.87	113.72	101.67	102.66	104.09	103.24
3	102.70	104.29	106.32	99.19	102.49	104.30	103.52
4	108.65	102.86	110.25	98.66	102.31	105.26	105.50
1981							
1 (est.)	114.55	103.72	109.53	103.72	103.91	105.69	108.17

related plants–tire and auto-glass. The industrial mix of the regional economy has undergone a basic transformation in the 1960s and 1970s, from a mainly manufacturing-oriented economy to a more diversified economy today, making it less vulnerable to recessions. The manufacturing sector used to employ more than 50% of the local labor, but it employs about 30% now.

Improvement in local employment and subsequent economic growth requires a stronger consumer demand than prevails at present. Since the regional economy is now more oriented toward consumer durables, medical services, wholesale, retail, financial and entertainment services, a rising consumer confidence is a prerequisite for a further push in future growth. As long as inflation and high interest rates prevail, the pace of regional economic growth can only be slow. Recent increase in labor productivity and a favorable climate that can be created by the federal economic recovery program will play an important role in bringing a high growth rate to the region, probably beginning with the second half of 1981.

TERRE HAUTE

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As of December, the 1981 outlook for Terre Haute was characterized as "not exciting", with "any recovery . . . apt to be slow, spotty, and at best incomplete." Since then the news impacting on the local economy has been negative, and the outlook has deteriorated.

A spate of strikes came with the new year. One, at General Housewares Corporation, is settled; its impact transitory. The labor disputes involving the Tribune Star Publishing Company were more serious. Beyond the direct impact of reduced employment, and beyond the effects resulting from the high visibility of local newspapers, reduced circulation created marketing problems for retailers. It was the national coal strike, however, that most dimmed the region's long-term prospects. The December 1980 *IBR* noted that large reserves of high sulfur coal provide the potential for a dramatic expansion of the region's level of economic activity. This potential arises largely because of, rather than in spite of, the coal's high sulfur content. For it is not coal mining directly that provides the greatest potential but possible stimulation from the construction and operation of facilities dependent on coal, such as coal gasification works, synthetic fuel plants, and organic chemical plants. The Reagan administration appears indifferent, at best, towards developing coal-based alternatives to naturally occurring hydrocarbons. The coal strike, and the weakness in the UMW leadership brought out by that strike, certainly increases the attractiveness of non-union western coal, compared to that mined locally. The future of coal in the Wabash Valley still appears bright, but also appears to be farther off.

The first half of 1981 saw the closing of the Terre Haute facility of Stran Steel along with continuing weakness at Midland Glass and CBS Records. Stran Steel had been a major employer locally, and at relatively high wages. Activity at the plant declined over a number of years, and the impact of completely closing the operation will not be severe. CBS remains the largest employer in the Terre Haute area. Layoffs began two years ago, with one occurring as recently as mid-April. No quick turnaround is foreseen. Between March of 1980 and March of 1981, manufacturing employment in the Terre Haute SMSA fell by about 1,500, or 9.0%; durable goods manufacturing employment declined about 1,300, or 14%.

While year-to-year employment in the construction industry declined by about 400 jobs, or 12%, that performance is actually somewhat stronger than anticipated. Over the most recent twelve-month period, residential construction permits, measured in units, declined almost 50% from the preceding twelve months. Were it not for an uptick in February, the decline would have been more severe. Work at Merom Bluff, while somewhat off its peak, still accounts for about 1,600 of the 3,000 employed in construction. The first of two generating units is scheduled for completion in November, so construction employment should continue to decline.

Between March of 1980 and March of 1981, employment in retail trade in Indiana declined 2.4%; for the Terre Haute SMSA the corresponding drop was 8.1%. The numbers strongly suggest substantial weakness in retail sales, which in turn suggests deteriorating incomes and expectations. General merchandise sales rebounded in April and have remained strong in May. Automobile sales remain depressed, with no upturn in sight.

The Terre Haute metropolitan area's unemployment rate, at a seasonally adjusted 8.2% in March, still lies below the state average. However, the region has suffered substantial declines in employment and income, and recovery does not appear imminent.

MUNCIE–ANDERSON

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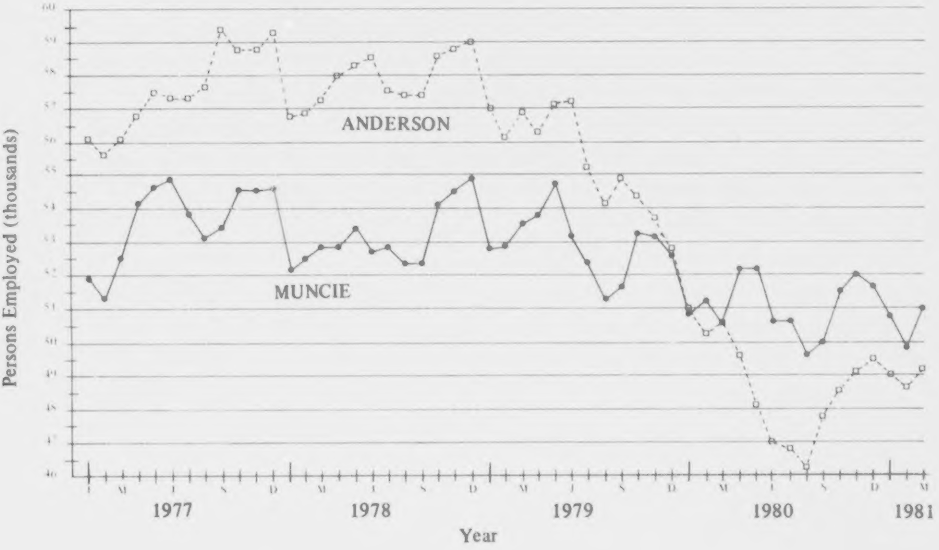
Current data on auto sales, housing, and interest rates provide no reason for altering the rather dour outlook for a slow recovery that was forecast for the Anderson and Muncie SMSAs in the December 1980 *IBR*. As the figure indicates, Anderson was hit far more severely than Muncie by the 1980 cyclical downturn. While employment has improved markedly in the Guide division, and to a lesser degree at Delco, much lost ground remains to be made up. If car sales persist in the doldrums well into June, some of the recent employment gains at Delco may be reversed.

Preliminary 1980 census data indicate that Delaware County (Muncie SMSA) population declined five tenths of a percent between 1970 and 1980, and Madison County (Anderson SMSA) increased by a minuscule six tenths of a percent. These figures contrast sharply with the 15% and 10% population growth rates experienced by these respective SMSAs between 1960 and 1970. Likewise, the population of State Planning Region 6 declined 1% even though the state's population grew 5.7%, or roughly half the growth rate experienced by the nation. Obviously, these population figures portend some long-range regional trends not captured by aggregate national income statistics or local six-month updates.

Autos and Steel

The locus of power of the nation's economy previously centered around a steel and auto industrial complex that rested on the happy

Figure 1
EMPLOYMENT IN MUNCIE AND ANDERSON, 1977 to 1981



combination of coal, iron ore and limestone, generously linked by the Great Lakes. That locus has now shifted to a more southerly-oriented petrochemical industrial base. Thus, it is not surprising that the last twenty years have witnessed significant reductions in regional real per capita income differences, with the greatest gains, relative to the national average, occurring in the South. More immediately germane to Indiana is Louis West's study (*IBR*, April 1980) indicating a long-term, gradual, declining trend in Indiana's share of the nation's output during the 1958-78 time frame. In short, the economies of the Great Lakes region, and of Indiana in particular, are heavily oriented around auto and steel production—two immobile and relatively inflexible oligopolistic industries now relegated to second-class status by foreign competition. Is it not a little startling that between 1966 and 1980, a time frame in which car imports grew from 6.7% to 26% of total sales (to say nothing of auto parts), the ratio of auto and steel wages to national industry-average wage rates moved from 1.4 to about 1.8?

Given the huge investment locked into producing over-stylized gas guzzling monsters, automobile manufacturers were naturally reluctant to switch to an emphasis on quality-built, efficient, small cars. It was primarily government regulations, increasing gasoline prices, and a rising torrent of quality foreign imports that forced the Big Three out of their twenty-year inertia. Thus, unable to meet changing market demands on a timely basis, these industrial Goliaths that dominate an industry that accounts for 8½% of our GNP and 12% of personal consumption, incurred losses of over $4 billion in 1980, and by year-end still had 190,000 workers laid off and another 350-600,000 in auto-related industries idled. No wonder the UAW and the United Steelworkers lobbies joined hand in hand with management in demanding legislative relief from foreign imports. The tentative "voluntary" import quota will provide American producers an umbrella enabling them to continue to raise prices on domestically produced models, while the Japanese will probably shift their exports to accessory-loaded luxury models, much as they shifted to high-quality specialty steels when previously confronted with steel tonnage quotas.

Specialization vs. Fragmentation

When this author first viewed Anderson's giant, strategically-located General Motors complex in 1955, he was visibly impressed. In contrast, Muncie, with few exceptions, appeared as a welter of smaller, more diversified manufacturing firms and accompanying railroad tracks, sprawled all over the area in such a manner as to almost deserve the term "planned urban blight." Rumors abounded that a prominent Muncie firm had kept General Motors from further expansion in Muncie, and I, along with many others in the community, surmised that Anderson's future growth was assured, whereas Muncie offered far less promise.

Such attitudes are analogous to those of contemporary English observers in the 1840s, who viewed Manchester, with its immense modern textile mills dominating the entire city, as the most efficient and advanced city of the time—a portent of cities of the future. Birmingham, on the other hand, had few large firms relative to Manchester, for its diverse manufacturing was carried out by many small fragemented firms so that it was difficult to say what kept Birmingham alive. Manchester's efficient specialization, however, was a portent of future stagnation as a company town. On the other hand, Birmingham, with its fragmented industrial agglomeration, which appeared as inefficient little firms splitting off new organizations, is today one of the more vigorous and prosperous cities in England.

General Motors

"Anderson reflects the disadvantage of a city being heavily dependent on one industry for its livelihood", observed Lt. Governor Mutz recently, and he was largely right. The economic outlook for Anderson in the eighties is not only dependent upon General Motors being able to produce quality small cars that can compete with foreign cars in *world* markets, but also upon General Motors allocating a larger proportion of their widely publicized $40 billion, five-year capital spending program to the Anderson complex. A cash flow crunch generated by low car sales recently has resulted in GM announcing the delay in program implementation "for at least a year" of new plant construction in Kansas and Michigan. On the credit side of the ledger, General Motors announced in March the intention of investing $17 million to bring on stream a newly developed Delcotron generator for compact and sub-compact cars to be made in an Anderson plant. Other things being equal, this new product has the potential for adding an additional 300 to 400 jobs in the future. Anderson needs a great deal of this kind of news, but as discussed in the November-December 1979 and the June 1980 *IBRs*, GM has been exporting Anderson jobs and even plant machinery to new southern plants. Anderson's gain in the Delcatron contract has unfortunately been offset by GM's decision to move the forging division from the Muncie Chevrolet plant during the next six to eighteen months. The forging division employs 10% of the plant's work force.

The production of the new J-Cars is benefiting both the Anderson and Muncie plants, which produce their components, but the J-Cars' reception, over time, will depend upon GM's undemonstrated capacity to mass produce a small car that is comparable to Japanese models in quality and price. Domestic car sales should substantially improve in the 1982 model year, but long-run analysis indicates an average growth in cars-in-use in the U.S. for the next two decades will approximate about 1.5% as opposed to a 3% annual growth rate the past twenty years. In short, while the long-run outlook for the American auto industry is by no means entirely clear, even the most sanguine optimist cannot ignore the myriad of real problems now confronting the industry.

The Return of Prosperity

What is being done to bring prosperity back to Anderson? Anderson has marshalled a plethora of planning commissions and agencies involving over a hundred people and recently has created the Anderson Economic Development Coordinating Council to assure non-duplication of planning efforts and to enable "the left hand to know what the right hand is doing," as Mayor McMahan stated, "for these agencies kind of grew like topsy and must be coordinated if we are to get the maximum benefit." The agencies, recipients of sizeable federal and state grants, are busily engaged in numerous projects that the mayor claims could draw "total private investment in excess of $35 million and potential jobs of more than 800." One can only hope that the Anderson planners fare better than Muncie's planning commission, which sank $3 million of a $5 million federal economic development grant into an unsuccessful attempt to save 750 jobs at the Marhoffer meat packing plant and much of the balance to the Middletown USA Industrial center with almost equally disastrous results. "Potential jobs" in the parlance of professional planners, had best be treated with a jaundiced eye until they are realized. Firms contemplating doing business in Anderson cannot afford to ignore the average $18-plus per hour wage package competition of General Motors, which is another way of saying the economic health of Anderson will continue to lean heavily upon the shoulders of General Motors. Anderson to a significant degree remains a company town.

A Shift Toward Technology-Intensive Industries

What else might be done? Possibly New England's experience might suggest some better alternatives. For several decades New England witnessed the movement of its textile industry to the South. This exodus was subsequently paralleled by the decline of New England's shoe industry and by increased foreign competition in both fields that appeared to foreshadow the economic demise of the region. Yet New England today is considered a high-technology industrial region, largely as a consequence of benefits accrued from its traditional technologically-oriented industrial agglomeration, serviced by banks and financial institutions with a proclivity toward venturing risk capital, and from close working relationships with Harvard's and MIT's industrial research endeavors. Indeed, both Harvard and MIT have long been involved in relatively high-risk venture financing of industrial research.

When one thinks of high-technology industrial research in central Indiana, such firms as Eli Lilly in pharmaceuticals and Delco Electronics at Kokomo come to mind. But other high-technology areas have little representation. These labor-intensive industries include: office, computing, and accounting machines; guided missiles and space vehicles; measuring, analyzing, and controlling instruments; photographic, medical, and optical goods; and watches and clocks. These industries use highly skilled workers, and their ratio of scientists and engineers to total labor force is high.

Could not closer relations be established between institutions of higher learning and entrepreneurial research ventures in, say, agribusiness wherein the industrial scientist, banker and entrepreneur combine their talents to research the development of new agricultural products? Was not the development of gasahol production in Indiana the outcome of such a process? Why not attempt to garner a larger share of defense research contracts so that Indiana would recover more than the 58 cents it gets back in defense contracts for every tax dollar it provides to federal government for defense? The state's universities might provide the scientific and managerial expertise to bring the entrepreneur and financial intermediary into a better understanding of the need and potential of such research enterprises. Such efforts would ultimately bring a brighter economic future to Anderson, Muncie, and other Hoosier cities.

GARY–HAMMOND EAST CHICAGO (Calumet Area)

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Our November-December outlook, six months ago, projected a relatively slow growth in the Northwest Indiana region, a kind of bumping along a plateau with a possible turning point and accelerated growth beginning about April or May of the current year. It appears that the forecast was about correct, with the regional index experiencing a somewhat slower advance than the national economy. We are not absolutely sure of a takeoff in April or May; indeed, our regional econometric model (dated April 1, 1981) appears to anticipate a slight decline between the first and second quarters followed by steady though not spectacular advance, along a broad front, in the third and fourth quarters, finishing the year slightly ahead of 1980.

The 1980 recession or decline was unusually acute in manufacturing, the backbone of the local economy. The layoff rate as recorded by the Bureau of Labor Statistics (series 3), dipped deeper in the second quarter of 1980 than in

Table 1
MAY 1981 BUSINESS SURVEY

	View (Forecast) as of Nov. 1980	*Actual 1981*	*View (Forecast) as of March, 1981*
Mean increase in output	2.79	4.56	5.02
Proportion of firms increasing output	69.3	61.22	87.23
Mean increase in prices	7.71	3.91	3.86
Proportion of firms raising prices	84.9	81.25	88.89
Proportion of small firms (under 50 employees) increasing employment	15.3	5.13	4.01
Proportion of intermediate firms (51 to 299 employees) increasing employment	12.5	10.48	4.77
Proportion of large firms (over 300 employees) increasing employment	23.1	18.88	6.76

any period since 1958. Almost 4 of each 100 manufacturing employees was laid off as compared to about 3 of 100 at the bottom of the 1974-75 recession. Fortunately, the decline was short-lived.

Table 1 is a brief summary of our semiannual survey of 252 businesses. There is indication of slight improvement though no buoyancy; almost 12% of responding firms anticipate declines. Moreover, small and intermediate firms appear less confident of future growth than large firms. The computed index advanced slightly from 109.9 to 114.04 (1972 = 100). Almost one half of our statistical tests accept the null hypothesis (possibility of no change).

The Northwest Indiana Econometric Model

The goals of the model are to objectively predict as well as to enhance our understanding of how the local economy functions and how we respond to national (or international) change. Our approach departs slightly from the state model. There are three components. First, we let the programs make a selection of twelve cyclical indicators from a pool of thirty, some leading the local economy by as many as nine to twelve months. These indicators are statistically weighted in three groups, those with long leads, intermediate leads and short leads. Subsequently, a set of eight national aggregates obtained from the Micrometrics forecasts and other sources, including Wharton are weighted to form a consensus forecast. Finally, a replaceable panel survey of regional businesses is obtained and three indices of anticipated business activity are constructed. The model first predicts twenty-three employment series and nine payroll series, in addition to the Chicago Metropolitan Business Activity Index (which

Table 2
SELECTED FORECASTS FROM
NORTHWEST INDIANA ECONOMETRIC MODEL
1981

	Actual	**Forecast**		
	First Quarter	*Second Quarter*	*Third Quarter*	*Fourth Quarter*
Total payroll employment	251.3	252.78	259.85	261.72
Manufacturing employment	93.1	96.01	102.41	101.31
Nonmanufacturing employment	158.1	156.77	157.44	160.41
Trade	50.60	52.8	50.91	52.89
Construction utilities, finance, etc.	75.01	70.83	73.55	78.17
Government	32.40	33.14	32.98	29.35
Total monthly payroll ($ millions)		548	569	584
Manufacturing payroll ($ millions)		244	245	257

impinges on about 12-16% of regional employment.)

A six-sector model constrains the individual series. National values predict the local manufacturing payroll, which is the primary money flow. The other five sectors, the secondary money flows, are jointly determined in such manner that total employment and payroll equals manufacturing plus nonmanufacturing employment and payroll, while nonmanufacturing employment in turn equals retail and wholesale employment, construction, finance and other services and public sector employment. The results, with some discretionary fine tuning, are in Table 2.[1]

The model uses money supply in 1972 dollars (M1B) as a policy proxy. Whenever the rate of inflation exceeds the rate at which money is expanded and M1B falls, local manufacturing employment rises. On the other hand, if money supply expands more rapidly than the price level, local manufacturing tends to decline nine to twelve months later. Similar conclusions can be deduced from other series, such as changes in liquid assets. As the rate of change (the logarithm) of the share of wage costs in manufacturing output rises, seven to nine months later manufacturing tends to decline, etc. From 1970 to 1975, manufacturing employment declined from 107.8 to 96.3 (thousand) whereas nonmanufacturing rose from 115.4 to 136.0. This pattern may continue over the next five years.

Yet, we foresee improvement in the local economy notwithstanding that as incomes rise, the work force trades more leisure–relaxed working conditions, reduced effort per man hour–for more consumption. One might refer to this as the macro-equivalent of the classical trade-off between consumption and more leisure. When firms recognize the reduction in output per man hour as a rational choice by the "new" work force for lower real incomes, as money incomes are eroded by inflation, there will be less concern with declining productivity and a new equilibrium growth path may emerge for the local economy.

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[1] A description of the model with all equations is available from the author.

JEFFERSONVILLE
NEW ALBANY
(Louisville Area)

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The Louisville metropolitan area is experiencing somewhat mixed economic conditions at present. There is definite improvement in many sectors, but continuing weakness in others.

The general outlines of the recession can be seen in Table 1. The local economy bottomed out in the second or third quarter of 1980, and then moved upward–fairly strongly in some areas, more tentatively in others–during the ensuing six months. In the fourth quarter of 1980 and the first quarter of 1981 each business activity index was higher than it had been during the second and third quarters of 1980. In fact, the transportation, trade and services, and construction indexes have by now regained or surpassed their first quarter 1980 levels, and the transportation index in the first quarter of this year reached a level that had been exceeded only twice before: in the second and third quarters of 1979. Since this index reflects the real volume of goods moving into and out of the metropolitan area, it suggests that important sectors of the economy are now operating with considerable vitality.

On a less reassuring note, construction and manufacturing, the two sectors that declined the most drastically in 1980, remain well below their prerecession levels. In the first quarter of this year construction employed 1,500 fewer workers than a year earlier, and 2,600 fewer workers than in the first quarter of 1979. (See Table 2.) Residential building permits, however, were higher, both in number of units and in dollar value, in March 1981 than in March 1980, portending a rise in construction employment in the months ahead.

While high interest rates, currently averaging 16 to 17% for new mortgages, sharply curtailed home building and home buying, both activities have managed to continue, primarily through reliance on "creative financing." As a result of the limitations imposed by credit conditions, most large-scale residential building projects have been either condominiums (particularly in

Table 1
INDEX OF LOUISVILLE AREA BUSINESS ACTIVITY

	Quarterly Averages					
	1979:1	*1980:1*	*1980:2*	*1980:3*	*1980:4*	*1981:1*
Industrial production	125.5	114.6	102.5	102.0	109.1	107.3
Transportation	182.0	183.6	180.1	182.3	184.6	188.3
Trade and services	151.4	148.3	136.8	137.5	141.6	148.8
Construction	152.4	129.3	103.4	123.6	134.9	130.2
Financial	346.6	408.1	382.8	378.7	391.1	388.3
Employment	137.5	133.8	130.8	130.3	131.5	131.7
Composite	162.9	162.9	151.2	151.9	157.8	158.7

1967 = 100 (seasonally adjusted)
SOURCE: Research Department, Louisville Area Chamber of Commerce

Table 2
EMPLOYMENT IN THE LOUISVILLE-JEFFERSONVILLE-NEW ALBANY AREA, 1979-1981*

	Quarterly Averages			
	1979:1	*1980:1*	*1980:4*	*1981:1*
Clark and Floyd Counties				
Total nonfarm employment	45,000	46,600	48,100	47,400
Durable goods manufacturing	8,700	8,600	8,800	8,800
Nondurables manufacturing	3,400	3,300	3,200	3,300
Nonmanufacturing	32,800	34,800	36,100	35,300
Construction	1,500	1,500	1,600	1,300
Retail trade	9,300	9,700	9,700	9,100
Services	6,000	6,200	6,500	6,400
State and federal government	4,700	5,100	5,600	5,900
Local government	6,300	6,300	6,500	6,500
Residents unemployed	4,700	5,700	5,400	6,300
Unemployment rate	6.8%	8.1%	7.7%	9.1%
Louisville Metropolitan Area #				
Total nonfarm employment	395,000	389,300	390,900	384,500
Durable goods manufacturing	67,400	60,400	58,800	60,100
Machinery & metal products	42,700	39,400	40,000	40,500
Transportation equipment	11,000	8,500	7,300	8,100
Nondurables manufacturing	43,000	42,100	41,100	40,900
Nonmanufacturing	284,800	286,800	291,100	283,400
Construction	16,800	15,700	16,000	14,200
Wholesale & retail trade	88,700	87,800	90,300	85,800
Services	71,500	73,900	76,900	76,100
Government	59,800	60,800	59,800	60,300
Residents unemployed	22,700	30,600	32,100	38,200
Unemployment rate	5.6%	7.3%	7.5%	8.9%

*The employment data refer to establishments located within the area cited; the unemployment data refer to residents of the area cited, regardless of where the residents work. Data are not seasonally adjusted.

#Includes Floyd and Clark counties in Indiana, and Jefferson, Oldham, and Bullitt counties in Kentucky.

SOURCES: Indiana Employment Security Division; Kentucky Department for Human Resources.

southeastern Jefferson County, Kentucky) or government-subsidized housing (in New Albany, for example).

Many nonresidential construction projects are underway or recently completed. In Indiana, these include Clark County's new airport for private planes and a major remodeling and expansion of the Marriott Inn complex. The numerous projects in downtown Louisville include Schneider's hotel, apartment, and office complex adjacent to his Galt House hotel, the new Kentucky Center for the Arts, the ambitious retailing and office Galleria development, a multi-stage addition to University Hospital, a two-story addition to the YMCA, the Avery Federal Building, and multimillion dollar renovations of the Seelbach Hotel, the YWCA, and the handsome 600 West Main Street building. Among developments elsewhere in Jefferson County are the recently-opened Jefferson Trade

Center and the first stage of the Louisville and Jefferson County Riverport, as well as several commercial and industrial projects such as The Centre (office) Building, National Processing Company's new headquarters building, and Harshaw Chemical's $2 million wastewater treatment facility.

Industrial employment and output remain depressed. By the first quarter of 1981, the metals and machinery sector had regained 1,000 of the 3,000 jobs it had lost a year earlier. Transportation equipment employment, however, remains at about the same low level it declined to in 1980. Significant improvements here probably await production of the compact Ford pickup (Ranger) at the former LTD plant, with output scheduled to begin in January 1982. In the meantime the $125 million plant conversion should provide some jobs for other local workers.

While the major impact of the recession was on the manufacturing areas just discussed and on housing-related industries, employment cutbacks gradually spread throughout the local job market, with the result that metropolitan area employment in the first quarter of 1981 was about 5,000 workers below the corresponding 1980 level and more than 10,000 below the first quarter of 1979. Only service sector jobs increased during this period. Although this is hardly good news, it is normal for the employment upturn to lag behind the beginning of recovery in output and sales. Employers often find that they can increase productivity with their existing work force, and they are reluctant to take on the cost of additional workers until they are certain that the rising demand for their products will be sustained.

As we noted six months ago, jobs in Clark and Floyd County establishments were much less vulnerable in this recession. The industry mix in the Indiana counties includes relatively few firms in the very hard-hit categories discussed above, as well as several producers for whom demand is very strong. For example, Jeffboat, a major employer, has been operating at full capacity throughout this period and still has a very large backlog of orders. Thus, while many firms did lay off some workers, others increased their work force. As a result, total manufacturing employment remains about the same as in early 1979 and 1980. Meanwhile, nonmanufacturing employment has increased, despite some net job losses in construction and retail trade. Most of the growth has been in services and state and federal government employment; however, layoffs of Census Bureau workers have begun and are expected to continue. The major effect of the recession has been to reduce employment growth to less than half of what it would be in a typical expansionary year. Also, since many Clark and Floyd residents work in Kentucky and have been subject to layoffs there, unemployment among residents has risen sharply, in turn affecting local retailing and banking.

Assuming that the national recovery continues, area employment should expand at a moderate rate throughout the rest of 1981. While mortgage interest rates might recede a little by about the third quarter, it does not appear at present that they will decline enough to offer much relief to the housing market. Creative financing will continue to be important. All in all, the Jeffersonville-New Albany-Louisville area should experience rather modest gains in output, employment, and sales during the next six months.

FORT WAYNE

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The strength of the national economy in the first quarter was indisputable. It was surprising to this economist and others willing to participate in the forecasting game. Paradoxically, the strength did not reveal itself locally, making the original 1981 outlook for the area economy appear almost euphoric at this time. Despite this, the initial forecast of a "... modest recouping of losses in economic activity experienced in the last two years" remains intact. Quantitatively, this is expressed as a regaining *by year-end* of 3,000 to 5,000 of the 11,400 jobs lost during the cyclical downturn.

Assuming the 1980 recession ended in August, the cyclical recovery of the area economy thus far is a mirror image of the last one. Area employment troughed about three months following the end of the recession but it has not increased significantly yet despite a pickup in area production activity—as measured by a proxy, industrial electricity usage. As the slack labor capacity is reutilized, a belated surge in employment will occur. For example, between May and December, 1975, establishment employment increased by 4,400 and by May, 1975, it had increased by 10,600.

In addition to the cyclical argument, there are several fundamental reasons for optimism. First, the transportation and housing sectors will ultimately join the other sectors in the process of recovery, and this will be bullish for the area. This view holds despite the fact that each industry has a special problem. Specifically, the domestic transportation industry faces a product image/price problem. The outlook for housing is muted by the fact that the quickly changing picture for mortgage financing—variable rate mortgages—will reduce the investment/speculative portion of the demand for housing.

Second, acceptance of President Reagan's economic package—with special emphasis upon the Federal Reserve Board meeting its announced money supply growth targets—will cause long-term interest rates to decline. This will, in turn, stimulate durable goods manufacturing, which is so important to the area economy.

Third, inventories remain in excellent shape as final sales continue to exceed production. With only modest growth, this trend must reverse. Additionally, a lowering of interest rates will cause the optimum level of inventories desired to increase.

Fourth, successful passage of the business investment incentives portion of the Reagan tax package—with a 1981 starting date—will be bullish for the area economy.

In summary, the loss locally of the Scout Division of International Harvester and the well publicized financial difficulties of the company are drags on the area economy; however, the economy is substantially more than just IH. Reasons for upside movement predominate, including absence of a dour forecast, itself!